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ANNUAL REPORT

ON THE

HEALTH OF GIBRALTAR

FOR THE YEAR

1933,

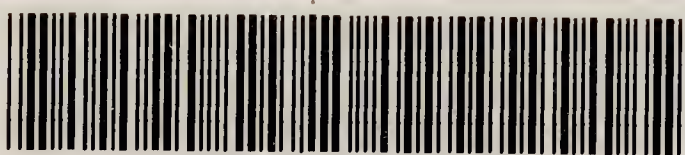
BY

Major G. D. JAMESON, D.P.H., R.A.M.C.,
Medical Officer of Health.

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* J. DOTTO, Esq., M.R.C.S., L.R.C.P.

* Allowance paid to private medical practitioners as a retaining fee for their services.

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The Deputy Director of Medical Services, Gibraltar
Command.

The Senior Naval Medical Officer, Gibraltar Command.

The Captain of the Port.

The Port Surgeon.

The Colonial Surgeon.

The Medical Officer of Health.

The Chairman, City Council.

The President, Exchange Committee.

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P R E F A C E .

The General Health of Gibraltar has been good during the year under review.

There was a mild epidemic of influenza in the earlier months of the year, but the total number of notifiable infectious diseases was remarkably low.

The zymotic death rate was the lowest recorded for the last ten years.

The infantile mortality rate is lower than any previously recorded year, and it is satisfactory to note that for some years past the average rate has compared not unfavourably with that of England and Wales.

There were several cases of rabies among local animals, of which a full account is given in the body of the report.

During a short period in the autumn, water for drinking purposes was supplied from wells at North Front to supplement the existing rain water supply. The water was chlorinated before distribution. The scheme worked successfully and no complaints were received as to quality or taste. This is of some interest as showing the possibilities of using water from North Front Wells for supplementing the normal supply.

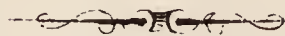
Thanks are due to those who have contributed to the preparation of this Report, and to the Local Press for their continued assistance.

G. D. Jameson, Major R.A.M.C.,
Medical Officer of Health.

CITY COUNCIL OF GIBRALTAR.



PUBLIC HEALTH DEPARTMENT.



SUMMARY OF VITAL STATISTICS FOR 1933.

Total area of Gibraltar Territory	... ..	{	1,387 acres, 2 roods, 3 poles
Area of the City	... ..	{	104 acres, 3 roods, 33 poles.
Estimated Total Civil Population of Gibraltar	16,397	persons.	
Estimated Fixed Civil Population of Gibraltar	15,071	persons.	
Births in Fixed Civil Population	... ..	{	187 Males. 170 Females.
Total Births	... ..	357.	
Birth rate per 1,000 of Fixed Civil Population	23.68.		
Deaths in Fixed Civil Population	... ..	{	112 Males. 133 Females.
Total Deaths	... ..	245.	
Crude death rate per 1,000 of Total Civil Population	... ..	{	14.94.
Average crude death rate for previous ten years	... ..	{	15.7.
Death rate from Pulmonary Tuberculosis	... ..	1.28	per 1,000.
Infantile Mortality rate	... ..	39.2	per 1,000 births.

METEOROLOGICAL OBSERVATIONS FOR THE YEAR 1933.

Latitude 36° 6' N. Longitude 5° 21' W.

Instruments verified at the National Physical
Laboratory, Kew.

The Meteorological Station is situated in the Alameda Gardens on the South-West side of the "Rock." Barometer 90 ft. above mean sea level. Thermometers and Rain gauge 102 ft. above mean sea level.

The shade thermometers, kept in a Stevenson screen are: one self-recording maximum, one self-recording minimum, a dry and wet bulb. A self-recording grass thermometer is used for registering the temperature on the grass.

The rain gauge is an 8 inch copper meteorological pattern.

The anemometer is fixed in Victoria Gardens, North Front, on the isthmus which joins Gibraltar to the mainland, and clear of the Rock to avoid eddies.

A report is sent twice daily to the Meteorological Office, London, and daily to the *Gibraltar Chronicle* for general information. A complete monthly report is also sent to the Meteorological Office, London, for publication in their journals.

The report contains statistics showing the means for the year in barometric pressure, air, temperature, rainfall, humidity, cloud and wind, compared with the averages for a series of years, number of days of clear sky, overcast days, and days on which rain fell during the year. Readings are taken every day throughout the year at the 7th, 13th, 18th, and 21st hour, but the following tables are compiled from the readings at the 7th, 13th, and 21st hours only.

WEATHER.

Rain Season 1932-33	41.54 inches.
Rainfall for the year 1933.....	49.21 ,,
Number of days with 0.1 inch of rain or more	93
Number of days with 0.4 inch of rain or more	75
Wettest day.....	25th Jan., 4.91 ins.
Highest recorded temperature in the screen.....	96° F --17th Dec.
Lowest recorded temperature in the screen..	35° F.—17th ,, 18th ,,

Mean temperature for the year	63·8° F.
Mean Humidity for the year	74%
Lowest temperature on the grass	27° F.—17th Dec.
Mean amount of cloud for the year ...	3·8
Number of days of clear sky	95
Number of days of overcast sky	51
Number of days with thunderstorm ...	2
Number of occasions when hail fell ...	2
Number of gales and gale gusts.....	4
Number of days with fog	13
Number of days with frost	2

BAROMETER. The mean Barometric reading for the year was 30·032 ins. when reduced to mean sea level and to a temperature of 32° F. The highest corrected reading of the year was 30·543 ins. on December 24th, and the highest corrected monthly mean 30·111 in January. The lowest corrected reading of the year was 29·428 ins. on 18th November, and the lowest corrected monthly mean 29·913 in November.

TEMPERATURE. The mean temperature for the year was 63·8° F. which was 0·5° F. below the average. The highest shade temperature recorded was 96° F. on 9th August.

WIND. The winds during the year were mostly from the West and of a light nature.

RAINFALL. The rainfall for the year was 49·21 inches, 13·46 inches above the average, January being the wettest month with 14·96 ins. The heaviest fall for one day being 4·91 ins. on the 25th January. There were four months, i.e., June, July, August and September in which no rain was recorded. The fall in May was extremely small.

HUMIDITY. Normal.

TABLE I.

Month	Barometric pressure reduced to sea level & 32° Fahr. Inches.	Maximum and Minimum Temperatures.			Difference from average for 40 years. °F.	Maximum date.	Minimum date.
		Maximum °F.	Minimum °F.	Mean °F.			
Jan.	30·111	61·5	48·9	55·2	+ 0·3	66—21st	42—14th
Feb	30·043	62·6	45·6	54·1	+ 2·2	69—7th, 8th, 10th	37—21st
Mar.	30·093	64·7	52·0	58·4	+ 0·8	70—7th, 16th, 20th	47—16th
April	30·052	72·0	54·6	58·3	— 2·7	82—13th	48—5th
May	30·109	78·0	60·1	69·0	+ 3·5	87—26th 29th,	52—4th
June	29·971	80·0	62·1	71·0	+ 0·5	87—24th	57—4th, 13th
July	30·064	82·3	67·6	75·0	+ 0·2	90—7th	61—1st, 2nd, 3rd
Aug.	30·018	85·2	72·0	78·6	+ 2·6	96—9th	67—27th
Sept.	29·996	79·8	65·9	72·9	+ 0·4	86—18th	56—30th
Oct.	29·998	72·6	61·2	66·9	+ 0·8	82—12th	48—30th
Nov.	29·913	60·3	50·5	55·4	— 5·1	70—1st	44—8th
Dec.	30·017	58·3	42·5	50·4	— 5·6	66—1st	35—17th, 18th
Year...	30·032	71·4	57·0	63·8	— 0·5	96—9th Aug.	35—17th, 18th Dec.

TABLE II.

Month.	Shade Temperature—°F.			Humidity %		
	7th hour.	13th hour.	21st hour.	7th hour.	13th hour.	21st hour.
January ..	50·3	59·0	52·1	86	69	83
February...	50·9	59·9	52·6	82	63	79
March	53·3	62·0	55·7	86	66	82
April	56·1	69·2	59·5	87	57	81
May	61·8	74·3	63·7	82	55	74
June	63·6	76·4	66·0	81	50	75
July	69·1	78·9	71·4	81	59	76
August	73·2	82·1	75·1	81	62	77
September ..	66·9	78·6	71·0	79	56	70
October	62·4	71·5	65·3	87	66	81
November ..	52·0	61·3	54·2	82	64	81
December..	48·1	56·7	50·0	81	66	82
Year	59·0	69·2	61·4	83	61	78

TABLE III.

Month	Terrestrial Radiation.			Solar Radiation.		
	Temperature on the grass.			Black bulb in vacuum.		
	Mean °F.	Min. °F.	Date.	Mean °F.	Max. °F.	Date.
January ...	41·8	35	14th	96	116	20th
February...	45·7	31	21st	102	122	16th
March	49·0	43	8th, 28th	104	128	13th
April	52·1	46	25th	109	133	26th
May	57·0	49	4th	125	137	29th
June	59·0	52	4th	130	138	9th
July	65·3	58	1st & 2nd	123	143	7th
August ...	68·3	59	6th	123	143	9th & 15th
September	61·1	51	30th	127	137	1st & 20th
October ...	56·8	46	31st	104	135	12th
November..	44·9	38	8th	96	123	1st
December..	42·4	27	17th	91	119	5th & 13th
Year	53·6	27	17th Dec.	119	143	7th July, 9th. & 15th Aug.

TABLE IV.

Month.	Cloud amount 0-10.			Clear sky days.	Overcast days.
	7th hour.	13th hour.	21st hour.	Less than 0·2 cloud.	More than 0·8 cloud.
January ...	5·3	4·7	4·0	5	4
February ..	4·6	4·1	2·7	7	4
March	5·3	5·8	5·1	4	6
April	4·5	3·1	2·3	10	1
May	4·3	2·2	1·3	10	1
June.,	2·3	1·9	0·8	13	1
July	3·7	2·8	2·5	10	1
August ..	3·8	2·5	1·9	13	—
September	3·3	3·2	1·9	7	—
October ...	6·0	5·3	4·8	3	7
November	4·5	5·5	3·7	6	6
December..	5·2	5·0	4·9	7	5
Year	4·4	3·9	3·0	95	36

TABLE V.

Month.	Rainfall 1933.		Greatest fall in 24 hours beginning at 7 a.m.		Number of days with '01 inches or more.	Number of days with '04 inches or more.	Rain Season.	
	Total inches.	Deviation from average inches.					1932-33	
			Inches.	Date.			Month.	Total inches.
Jan.	14'96	+9'90	4'91	25th	17	12	Aug. . . .	—
Feb	4'36	+0'16	2'09	26th	10	7	Sept. . . .	1'30
March	4'94	+0'16	1'55	23rd	15	12	Oct.	2'42
April	2'86	+0'22	1'29	1st	5	4	Nov	3'35
May	0'11	—1'60	0'06	1st	2	2	Dec.	7'24
June	—	—	—	—	—	—	Jan.	14'96
July	—	—	—	—	—	—	Feb.	4'36
August	—	—	—	—	—	—	Mar.	4'94
Sept.	—	—	—	—	—	—	April	2'86
October..	4'94	+1'65	1'98	22nd	10	8	May	0'11
Nov	8'48	+2'10	1'88	24th	18	17	June	—
Dec	8'56	+2'98	2'72	11th	16	13	July	—
Year	49'21	+13'49	4'91	25th Jan.	93	75	Rain Season	41'54

TABLE VI.

Month.	Winds obs. at 7-13-21 hr. 1098=year.								Calm.	Forces 1-3	Forces 4-7	Forces 8 or more
	N.	N.E.	E.	S.E.	S.	S.W.	W.	N.W.				
January ..	1	1	22	8	—	13	12	4	6	46	39	—
February...	1	5	17	4	1	7	17	7	8	34	22	—
March ...	1	3	24	4	—	12	29	1	7	54	30	—
April	—	1	19	3	—	14	20	1	17	63	9	—
May	—	2	21	4	—	20	12	4	15	71	7	—
June.....	—	2	4	3	4	32	22	7	16	52	22	—
July	—	1	46	3	1	20	13	2	7	77	9	—
August...	—	—	50	3	22	3	5	1	9	84	—	—
September.	—	1	13	—	25	13	25	4	9	69	12	—
October ..	—	—	41	1	10	6	14	7	14	68	11	—
November	—	1	9	2	2	13	30	10	5	68	18	—
December ..	—	—	9	—	—	4	34	23	9	59	25	—
Year.....	3	17	275	35	65	157	233	71	128	765	204	—

VITAL STATISTICS.

An estimate by the Police Authorities at the end of 1933, forms the basis on which the various rates connected with the vital statistics have been calculated in this report.

Data concerning the Naval and Military population are not included in these figures.

1. POPULATION.

The total Civil population is estimated at 16,397 persons, of which number 15,003 are British subjects other than Maltese, 68 British subjects born in Malta, 1,080 aliens residing in the Town, and 246 aliens resident in the Bay.

The following table shows the fluctuation in population of Gibraltar during recent years:—

How estimated.	British Subjects Fixed Population.	Alien Subjects Floating Population.	Total Population.
Census June, 1921	16,753	1,787	18,540
Police Estimate at end of 1922	16,182	1,145	17,327
Police Estimate at end of 1923	16,165	1,181	17,346
Police Estimate at end of 1924	16,177	1,147	17,324
Police Estimate at end of 1925	16,127	1,161	17,288
Police Estimate at end of 1926	16,150	1,013	17,163
Police Estimate at end of 1927	16,120	1,076	17,196
Police Estimate at end of 1928	15,719	1,112	16,831
Police Estimate at end of 1929	15,647	1,052	16,699
Police Estimate at end of 1930	15,526	922	16,448
Census April 1931	16,188	1,425	17,613
Police Estimate at end of 1932	15,143	1,466	16,609
Police Estimate at end of 1933	15,071	1,326	16,397

These figures represent the population of Gibraltar between the hours of 10 p.m. and 5.30 a.m. To calculate the daily population it will be necessary to add some 5,000 aliens and 1,500 British subjects residing in La Linea, who come into Gibraltar daily.

VITAL STATISTICS DURING 1933 AND PREVIOUS TEN YEARS.

Year	Population.		How Estimated.	Deaths				Infantile Mortality.		Births.		Zymotic Mortality	
				Fixed population. No.	Total population. No.	Rate per 1,000 of population.		No.	Rate per 1,000 births.	No.	Birth rate per 1,000 living of Fixed population	No.	Rate per 1,000 living of Fixed population.
	Fixed.	Total.				Fixed population.	Total population.						
1923	16165	17346	Police Estimate	285	294	17.63	16.95	40	109.5	365	22.5	32	1.84
1924	16177	17324		250	254	15.45	14.66	33	91	360	22.2	18	1.05
1925	16127	17288		249	256	15.44	14.80	31	83	372	23	10	.52
1926	16150	17163		271	276	16.78	16.08	46	107	427	25	20.	1.2
1927	16120	17196		291	297	18.05	17.27	36	99.1	363	22	13	.8
1928	15719	16831	Census	286	293	18.19	17.40	45	122.9	366	23.2	30	1.7
1929	15647	16699		254	262	16.36	15.68	18	46.6	388	24.7	10	63
1930	15526	16448		240	240	15.6	14.5	25	71.3	349	22.4	8	.51
1931	16188	17613		250	254	15.4	14.4	23	61	377	23.28	4	.24
1932	15143	16609		245	259	16.17	15.59	21	60.69	346	22.84	16	.96
1933	15071	16397	Police Estimate	241	245	15.99	14.94	14	39.2	357	23.68	3	.18

The age and sex incidence of the population of Gibraltar in 1933, is as follows:—

	Persons of 10 years of age and over.		Persons under 10 years of age.	
	Males.	Females.	Males.	Females.
British Subjects	5,024	6,029	1,990	1,960
Maltese	55	13		
Aliens in the Town	290	790		
Aliens in the Bay	132	114		
Totals	5,501	6,946	1,990	1,960

Total Males 7,491; Females 8,906.

2. DEATHS.

The number of deaths registered for the resident Civil population was two hundred and forty-one. Four deaths occurred in resident aliens, and of the patients brought in expressly for treatment, thirty-two died.

The following table shows the crude death rate for the past 10 years:—

Year	1924	1925	1926	1927	1928	1929	1930	1931	1932	1933
Fixed Population	15·45	15·44	16·78	19·05	18·19	16·36	15·60	15·40	16·17	15·99
Total Population	14·66	14·80	16·08	17·27	17·40	15·68	14·50	14·40	15·59	14·94

3. MONTHLY AND QUARTERLY MORTALITY.

The highest number of deaths occurred in March, and the lowest in September

The death rate for the first quarter of the year was the highest, and that for the second the lowest.

The number of deaths registered each month was as follows:—

January ... 27	April... .. 21	July 25	October ... 15
February 25	May 21	August ... 23	November... 19
March ... 36	June... .. 17	September... 14	December... 34
—	—	—	—
88	59	62	68
—	—	—	—

Causes of death in Civil population in 1933, according
to the International Abbreviated List, with
Age and Sex incidence.

Cause of Death.	All Ages	Under 1 year.		1 year and under 2.		2 years and under 5.		5 years and under 15.		15 years and under 25.		25 years and under 45.		45 years and under 65.		65 years and over.		Deaths in Institutions.
		M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F	
9. Influenza	2	—	—	—	1	—	—	—	—	—	—	—	—	—	—	—	1	—
12. Other epidemic diseases .	1	—	—	—	—	—	—	—	—	—	—	—	—	—	1	—	—	—
13. Tuberculosis of respira- tory system	21	—	—	—	—	—	—	—	—	4	1	3	2	7	—	3	1	5
14. Tuberculosis of nervous system	1	—	—	—	—	—	—	1	—	—	—	—	—	—	—	—	—	1
16. Cancer, Malignant tumours	20	—	—	—	—	—	—	—	—	1	—	2	9	4	2	2	2	7
17. Meningitis	3	—	—	—	—	1	—	1	—	—	—	—	—	1	—	—	—	—
18. Hæmorrhage, apoplexy and softening	22	—	—	—	—	—	—	—	—	—	—	—	4	4	1	13	6	6
19. Heart diseases	40	—	1	—	—	—	—	1	—	1	4	2	10	5	5	11	13	13
20. Acute bronchitis	3	—	—	—	—	—	—	—	—	—	—	—	—	—	1	2	—	—
21. Chronic bronchitis	9	—	—	—	—	—	—	—	—	—	—	—	—	—	4	5	5	5
22. Pneumonia	22	1	1	—	2	1	3	—	—	2	—	1	2	1	—	8	5	5
24. Diseases of the stomach ...	2	—	—	—	—	—	—	—	—	1	—	—	—	1	—	—	—	—
25. Diarrhœa and enteritis...	4	2	1	—	—	—	—	—	—	—	—	—	—	—	1	—	3	3
27. Hernia Intestinal obstruction	4	—	—	—	—	—	—	—	—	—	—	1	—	2	1	—	2	2
29. Acute and chronic nephritis	10	—	—	—	—	—	—	—	—	—	1	—	1	4	4	—	5	5
33. Congenital debility and malformations	7	6	1	—	—	—	—	—	—	—	—	—	—	—	—	—	2	2
34. Old age... ..	29	—	—	—	—	—	—	—	—	—	—	—	—	1	—	7	21	14
35. Violent deaths (exclud- ing suicide)	5	—	—	1	—	—	—	—	—	1	—	—	1	1	—	1	2	2
37. Other diseases	37	1	—	1	—	—	—	—	—	—	4	3	8	7	4	9	16	16
38. Diseases not stated or ill-defined	3	—	—	—	—	—	—	—	—	—	—	—	—	1	1	1	1	1
Totals	245	10	4	2	3	2	3	1	2	6	5	13	10	44	31	34	75	87

MATERNITY AND CHILD WELFARE.

It was found possible to increase the scope of the Maternity and Child Welfare Scheme during the year under review, and a larger number of attendances was recorded than in previous years.

The infantile mortality rate was lower than any yet recorded in Gibraltar and the satisfactory figures noted in recent years can no doubt—to some extent at any rate—be attributed to the fact that more persons are availing themselves of the benefits of this branch of the Public Health Service.

The services of a nurse were retained who attends all meetings of the Welfare Centre and also visits mothers and their children in their homes. The nurse is assiduous in her duties and is popular at the homes to which she pays visits. Her work undoubtedly contributed in no small degree to the satisfactory infantile mortality figures mentioned above.

The services of a midwife were supplied free to expectant mothers in poor circumstances who, for various reasons, cannot enter the Maternity Ward at the Colonial Hospital. The midwife's fee is paid out of the Maternity and Child Welfare grant.

The number of confinements attended by the midwife during the year was 12.

Maternity and Children's Ward, Colonial Hospital—

The admittance of women to the Maternity Ward at the Colonial Hospital during the year was 196, and 139 children were admitted to the Children's Ward during the same period.

STATISTICS.

One hundred and eighty-seven males and one hundred and seventy females making a total of three hundred and fifty-seven children, were born during the year giving a birth rate of 23·68 per 1,000 of population.

The following is the birth rate of Gibraltar compared with that of England and Wales and Malta, for the past 10 years :—

Year	1924	1925	1926	1927	1928	1929	1930	1931	1932	1933
England and Wales	18·8	18·3	17·8	16·6	16·7	16·3	16·3	15·8	—	—
Malta	34·6	33·3	32·9	32·6	31·7	33·2	34·1	33·2	32·3	—
Gibraltar...	22·2	23·0	25·2	22·5	23·2	24·7	22·4	23·2	22·8	23·6

INFANTILE MORTALITY.

The infantile mortality rate was 39·2 deaths per 1,000 births.

The following table is given for comparison with recent years :—

Year	England & Wales	Malta	Gibraltar
1922	77	261	103
1923	69	280	109
1924	75	268	91
1925	75	271	83
1926	70	260	107
1927	69	301	99
1928	69	267	121
1929	74	260	46
1930	60	296	71
1931	66	306	61
1932		257	60
1933			39

WELFARE CENTRE.

The Centre has been well patronized, and the number of attendances has considerably increased. It was found desirable to hold fortnightly meetings instead of monthly, as in previous years.

The average number of children attending monthly was 119, as compared with 83 last year.

Milk and other infant foods were sold at a reduced rate or, in necessitous cases, issued free.

The total amount of milk and other infant foods issued during the year was :—

Milk	9,142 tins
Glaxo	2 „
Virol	249 pots
Feeders	168

The nurse paid 457 visits to the houses of children during the year.

The Nestlé and Anglo-Swiss Condensed Milk Company has continued to supply the Centre with milk at a reduced rate.

MIDWIVES.

Eight midwives are registered under "The Midwives' Ordinance, 1907."

The number of live births attended by registered midwives during the year was 151 or 42·2 per cent. of the total births, as compared with 51·1 per cent. in the previous year.

The number of still-births for the year was 26.

The inspection of midwives, carried out at intervals during the year, proved satisfactory.

SCHOOL CLINIC.

The school clinic has been carried out by members of the medical and nursing staff of the Colonial Hospital.

The duties of school dentist have been carried out by Mr. Garesse.

CAUSES OF, AND AGES AT, DEATH OF INFANTS UNDER ONE YEAR
OF AGE IN GIBRALTAR DURING 1933.

Cause of Death.	Under 1 week.	1 week and under 2.	2 weeks and under 3.	3 weeks and under 4.	Total under 4 weeks.	1 month and under 3.	3 months and under 6.	6 months and under 9.	9 months and under 12.	Total under 1 year.
Diarrhoea and Enteritis...	—	—	—	—	—	—	2	2	—	4
Pneumonia	—	—	—	—	—	—	1	1	—	2
Congenital Debility and Malformations	3	—	—	1	4	1	2	—	—	7
Heart Disease	—	—	1	—	1	—	—	—	—	1
Totals	3	—	1	1	5	1	5	3		14

PREVALENCE AND CONTROL OF INFECTIOUS DISEASES.

The number of cases of notifiable infectious diseases reported during the year, exclusive of Naval and Military cases and cases landed from the Bay or brought into the Town for treatment, was 290.

Of this number, 134 were cases of pneumonia, the majority of which occurred during the first four months of the year at which time Gibraltar was visited by a mild epidemic of influenza.

Three deaths were attributed to one or other of the eight principal infectious diseases (small pox, measles, scarlet fever, diphtheria, typhus, enteric fever, whooping cough and diarrhœa and enteritis) giving a zymotic death rate of .18 per 1,000 of population, the lowest recorded for the last 10 years.

The main features of the year were:—

- (i) The comparative freedom of the population from infectious diseases, and low zymotic death rate.
- (ii) The continued absence of undulant fever and small pox.
- (iii) The appearance of rabies among cats and dogs.

QUARTERLY INCIDENCE OF NOTIFIABLE INFECTIOUS DISEASES.
CIVIL POPULATION.

Disease	1st Qr.	2nd Qr.	3rd Qr.	4th Qr.	Total	Deaths
Pneumonia	65	43	6	20	134	22
Chicken Pox	32	27	1	6	66	—
Scarlet Fever	4	10	2	1	17	—
Erysipelas	9	1	3	6	19	1
Pulmonary Tuberculosis ..	7	6	8	4	25	21
Diphtheria	2	2	—	1	5	—
Mumps	—	—	2	—	2	—
Venereal Diseases	1	2	—	—	3	—
Rubella	3	—	—	—	3	—
Influenzal Pneumonia	1	1	—	—	2	1
Ophthalmia Neonatorum ..	1	—	—	—	1	—
Gastro-Enteritis	1	2	4	3	9	4
Measles	—	—	1	1	2	—
Enteric Fever	—	—	1	—	1	—
Poliomyelitis	—	—	—	1	1	—
Totals	125	94	28	23	290	49

CASES LANDED FROM THE BAY OR BROUGHT INTO
THE TOWN FOR TREATMENT.

Disease	1st Qr.	2nd Qr.	3rd Qr.	4th Qr.	Total	Deaths
Pneumonia	5	2	1	1	9	6
Pulmonary Tuberculosis ...	2	—	1	—	3	3
Chicken Pox.....	—	—	1	2	3	—
Enteric Fever	—	—	—	1	1	—
Scarlet Fever	—	—	—	1	1	—
Totals	7	2	3	5	17	9

Age and Sex incidence of Notifiable Infectious amongst Civil Population during 1933.

Notifiable Disease.	NUMBER OF CASES NOTIFIED.														Districts.			Total cases re- moved to Hospital.		
	At all Ages	Under 1.		1 and under 5.		5 and under 15.		15 and under 25.		25 and under 45.		45 and under 65.		65 and Over.		North.	Central.	South.	Residents.	Non- Residents.
		M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.							
Pneumonia	134	12	10	20	25	17	14	2	4	5	5	5	11	1	3	2	126	6	—	10
Chicken Pox	66	3	1	5	9	23	18	2	3	2	2	—	6	—	5	2	57	7	—	2
Erysipelas	19	—	—	1	—	—	—	—	1	4	1	—	2	—	1	—	18	1	—	—
Pulmonary Tuberculosis	25	—	—	—	—	—	—	7	5	1	1	—	2	2	1	—	25	—	6	4
Diphtheria	5	—	—	—	1	1	2	—	1	1	—	—	—	—	—	—	5	—	—	—
Scarlet Fever	17	—	—	3	3	5	3	—	1	1	1	—	—	—	—	—	16	1	—	1
Venereal Diseases	3	—	—	—	—	—	—	2	—	—	—	—	—	—	—	—	3	—	—	—
Rubella	3	—	3	—	—	—	—	—	—	—	—	—	—	—	1	—	3	—	—	—
Influenzal Pneumonia	2	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	2	—	—	—
Ophthalmia Neonatorum.....	1	—	1	—	—	—	—	—	—	—	—	—	—	—	—	—	1	—	—	—
Gastro-Enteritis	9	4	2	2	1	—	—	—	—	—	—	—	—	—	—	—	7	1	—	—
Measles	2	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	2	—	—	—
Mumps	2	—	—	1	—	1	—	—	—	—	—	—	—	—	—	—	2	—	—	—
Enteric Fever	1	—	—	—	—	—	—	—	—	—	—	—	1	—	—	—	1	—	—	1
Polomyelitis	1	—	—	—	—	—	1	—	—	—	—	—	—	—	—	—	—	—	—	—
Totals	290	19	17	32	40	47	38	13	15	10	15	12	19	3	10	5	269	16	6	18

Monthly Notifications of Notifiable Infectious Diseases during 1933.—Civil Population.

Months.	DISEASES.															
	Pneumonia		Chicken Pox		Erysipelas		Pulmonary Tuberculosis		Diphtheria		Scarlet Fever		Venereal Diseases		Rubella	
	Cases	Deaths	Cases	Deaths	Cases	Deaths	Cases	Deaths	Cases	Deaths	Cases	Deaths	Cases	Deaths	Cases	Deaths
January	21	1	18	—	3	1	3	1	1	1	1	—	1	—	—	—
February	26	9	8	—	3	—	2	—	1	—	1	—	1	—	—	—
March	18	3	6	—	3	—	2	—	—	—	2	—	—	—	—	—
April	30	1	17	—	1	—	3	—	1	—	2	—	—	—	—	—
May	12	2	8	—	—	—	2	—	—	—	7	—	—	—	—	—
June	1	1	2	—	—	—	1	—	1	—	1	—	—	—	—	—
July	4	1	—	—	1	—	6	—	—	—	2	—	2	—	—	—
August	1	1	—	—	—	—	1	—	—	—	—	—	—	—	2	—
September	1	—	1	—	2	—	1	—	—	—	—	—	—	—	—	—
October	3	—	—	—	1	—	—	—	—	—	—	—	—	—	—	—
November	4	—	3	—	4	—	2	—	—	—	1	—	—	—	—	—
December	13	3	3	—	1	—	2	—	1	—	—	—	—	—	—	—
Totals	134	22	66	—	19	1	25	21	5	—	17	—	3	—	2	—

ENTERIC FEVER.

Only one case of the "enteric group" of fevers was notified during the year. This occurred in August and was a case of paratyphoid "B."

Infection can be attributed to a source outside Gibraltar.

The patient recovered.

DIPHTHERIA.

There were five cases of diphtheria during the year.

The cases occurred sporadically throughout the year.

All five cases recovered.

Diphtheria Antitoxin—

The amount of anti-diphtheritic serum issued to the Colonial Hospital and to private medical practitioners during the year was over 150,000 units.

SEASONAL PREVALENCY OF DIPHTHERIA IN GIBRALTAR DURING 1933.

[illegible]

AGE AND SEX DISTRIBUTION.

Age								Under 3	3 to 5	5 to 10	10 to 25	25 to 45	Total.
Cases	...	...	...	...	...	...	...	1	1	1	1	1	4
Deaths	..	...	...	...	...	..	..	—	—	—	—	—	—

UNDULANT FEVER.

No cases occurred during the year.

SMALL POX.

No cases occurred during the year.

VACCINATION.

The number of vaccinations performed during the year was 652. Of these, 336 were revaccinations on children who had attained the age of 12 years. The Public Vaccinator carried out 581 vaccinations and revaccinations during the year.

The following statistics show the state of vaccination for births during 1933 :—

Number of children born	357
Died before vaccination	7
Left Gibraltar	41
Certified as insusceptible to vaccination	Nil.
Vaccination postponed on medical grounds ...	21
Number successfully vaccinated	226
Objectors to vaccination	1
Outstanding (under 3 months)	61

VENEREAL DISEASES.

The treatment centre is established at the Colonial Hospital and here free treatment is given to both in and out-patients.

The Public Health Laboratories undertake all investigations in connection with venereal disease, and in the case of Gibraltar residents, Gibraltarian residents in the neighbourhood and Port cases, these investigations are carried out free of charge.

Thirty-two patients were treated in the Male Venereal Ward, Colonial Hospital, during the year, two of these being mercantile seamen.

The number of intravenous injections was 108.

PULMONARY TUBERCULOSIS.

The number of cases of pulmonary tuberculosis notified during the year was 25, giving a case rate of 1.52 per 1,000 of population.

The disease accounted for 21 deaths, equivalent to a death rate of 1.28 per 1,000 of population.

The number of cases of this disease accommodated during the year in the Gibraltar Home for Sick and Aged was 9.

AGE AND SEX DISTRIBUTION OF CASES AND DEATHS
FROM PULMONARY TUBERCULOSIS IN
GIBRALTAR DURING 1933.

Age	Under 15 years		15 to 20 years		20 to 25 years		25 to 30 years		30 to 40 years		40 to 50 years		50 to 60 years		60 years and over		Total
	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F	
Cases.....	—	—	4	2	3	3	—	1	1	—	1	—	3	1	4	2	16 9
Deaths	—	—	2	—	2	1	—	1	1	1	4	—	2	—	6	1	17 4

RABIES.

For the first time in several years, rabies made its appearance in Gibraltar.

The importation of dogs is strictly controlled and a muzzling order is in force all the year round, and cases in Gibraltar are, therefore, comparatively rare.

The outbreak in this instance can be attributed to a stray dog, suffering from rabies, which managed to make its way from Spain into the Fortress unobserved and attacked and bit one resident, a dog and several cats before it was captured. Steps were taken to ensure that the muzzling order was strictly enforced and that special precautions were taken to prevent the entry of unauthorised dogs into Gibraltar. Special arrangements were also made for the capture and destruction of all stray and ownerless cats, of which there are considerable numbers on the Rock. Any animal suspected of being infected with rabies or which had made an unprovoked attack on any person was im-

pounded by the Police and kept in special kennels under the observation of the Veterinary Adviser. In cases when this officer considered it advisable, the brain was extracted and sent to the Pasteur Institute, Tangier, for examination. All persons bitten or scratched by animals whose brains were reported "positive" or when the animal was certified by the Veterinary Adviser to be suffering from rabies, were advised to proceed to Tangier for prophylactic treatment. In certain cases money was advanced on loan by the City Council in order to enable the patient to proceed with the least possible delay.

Fortunately the outbreak was limited; only four dogs and four cats are known to have been infected, but the appearance of the disease in cats gave rise to a certain amount of anxiety.

This incident gives a striking proof of the value of the Muzzling Order in force and provides a potent argument against any relaxation of such a measure. Had no such measure been in force, the difficulty of effectively controlling the outbreak would have been considerably increased and the results would, in all probability, have been serious.

DESTITUTE SICK AND TUBERCULOSIS SCHEME.

This was maintained, as in former years, by an annual grant from the Colonial Government administered by the City Council.

The money is expended on :—

(a) Outdoor Relief.

(b) Indoor Relief.

(a) Outdoor Relief—

Relief in the form of meat and milk is granted to British subjects resident in Gibraltar who through sickness or some other good reason are unable to earn a living sufficient to supply themselves and their families with a reasonable amount of nourishment. Pecuniary relief is only given in very exceptional cases. All cases are scrutinized by the Medical Officer of Health and relief is given only after approval by the Council.

Special attention is paid to cases of tuberculosis.

The number of persons in receipt of Outdoor Relief during the year was as follows :—

January	73
February	75
March	81
April	87
May	85
June	87
July	91
August	89
September	92
October	90
November	95
December	92

The total amount of relief issued during the year was as follows :—

Meat	8,871 lbs.
Milk (fresh)	6,770 pints
Milk (condensed)	5,006 tins

(b) Indoor Relief—

The Gibraltar Home for Sick and Aged provides accommodation for destitute persons of both sexes and for cases of tuberculosis for whom a portion of the building is set apart.

During the year one inmate was found to be suffering from leprosy, the diagnosis being confirmed after a period of observation in the Colonial Hospital. The patient was transferred to a special block at the Isolation Hospital. This disease has fortunately been very rare in Gibraltar, the infection in this instance having probably been contracted from a former inmate of the Home who developed the disease some years ago and was subsequently transferred to the Isolation Hospital.

As a Home for destitute persons this institution serves a very useful purpose and is perhaps invaluable. The majority of the inmates are, however, of the aged and infirm class and it is becoming more and more evident that the tuberculosis side is tending to become subsidiary. Although the tuberculosis patients receive care and attention which would probably be impossible in their own homes, the number seeking admission is very limited and the accommodation of these two classes in one institution can scarcely be considered ideal especially as there are certain practical difficulties in the way of providing such surroundings, attention and amenities as are desirable in cases of tuberculosis.

The Home has available accommodation for 51 men and 23 women.

During the year the average number accommodated was 60, including 9 cases of tuberculosis.

The cost of feeding has averaged 11d. per head per day.

The all-in cost per head per day was 1s. 10d.

The total expenditure on Indoor Relief was £2,024 16 0.

The total expenditure on Outdoor and Indoor Relief for the year was £3,041 18 5.

DESTITUTE SICK AND TUBERCULOSIS SCHEME.

SUMMARY OF INDOOR AND OUTDOOR EXPENDITURE FOR THE YEAR 1933.

INDOOR RELIEF.

	£	s.	d.	£	s.	d.
Provisions	1,031	15	5			
* Miscellaneous	379	6	0			
Maintenance of Buildings	69	3	10			
Rent	303	11	10			
Light	43	12	9			
Water... ..	72	14	0			
Telephone	12	0	0			
Clothing	96	16	8			
Printing	2	13	6			
Funeral Expenses	11	12	0			
Insurance	1	10	0			
				£2,024	16	0
Days of subsistence	22,021					
Average number of inmates	60					
Cost of feeding per head per day	-/11d.					
Cost of feeding per head per year... ..	£17	3	11			
Total all-in cost per head per day... ..	1s.	10d.				
Total all-in cost per head per year	£33	14	11			
Calories per head per day	3,467					

OUTDOOR RELIEF.

	£	s.	d.			
Meat—8,871 lbs.	295	14	0			
Milk (Fresh)—6,770 pints	77	19	2			
Milk (Condensed)—5,006 tins	94	16	3			
Money grants	150	14	4			
Funeral expenses	5	6	0			
Printing	7	12	8			
				632	2	5
Salaries				385	0	0
Total expenditure on Indoor and Outdoor Relief for 1933... ..				£3,041	18	5

* Includes washing, cleansing, sewing, coal and charcoal, utensils, ice, medicines, tobacco for inmates, etc., etc.

INVESTIGATION AND PREVENTION OF OTHER DISEASES.

MOSQUITOES.

The campaign against mosquitoes was carried out on the same lines as in 1932.

A small permanent anti-mosquito staff was employed throughout the year, which was augmented during the summer months by personnel specially engaged for this service.

Legal action was taken in certain instances when repeated offences against Section 167 (14) of the Public Health Ordinance had been reported.

The difficulties of mosquito control were enhanced by the exceptionally hot weather experienced during the summer of 1933.

A scheme for a partial re-organisation of the mosquito campaign, which it was considered might improve its efficiency, was submitted for the consideration of the Council but was not adopted.

The number of tanks inspected during the year to ascertain whether they were properly mosquito-proof was as follows:—

	<i>Inspected</i>	<i>Found defective.</i>
Fresh water tanks	351	32
Brackish water tanks ...	208	25
	<hr/>	<hr/>
Totals	559	57
	<hr/>	<hr/>

The number of premises visited and mosquito breeding places discovered is shown in attached summary.

The number of men employed during the year on anti-mosquito work was as follows:—

- 4 men from 1st January to 14th May.
- 6 men from 15th May to 31st May.
- 10 men from 1st June to 25th October.
- 4 men from 26th October to 31st December.

MOSQUITO CAMPAIGN RETURN FOR 1933

Week ending	Visits paid to Premises	Town—Lower				Town—Middle				Town—Upper				South				North				Totals
		Tubs	Barrels	Earthenware Vessels	Others	Tubs	Barrels	Earthenware Vessels	Others	Tubs	Barrels	Earthenware Vessels	Others	Tubs	Barrels	Earthenware Vessels	Others	Tubs	Barrels	Earthenware Vessels	Others	
Jan 7	470	...	...	...	...	...	...	...	...	1	...	...	1	...	...	...	...	...	...	...	...	...
14	489	...	...	...	...	...	...	...	...	1	...	...	2	...	...	...	...	...	...	...	...	...
21	466	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
28	456	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Feb. 4	442	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
11	437	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
18	441	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
25	389	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Mar. 4	399	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
11	400	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
18	401	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
25	404	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
April 1	405	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
8	414	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
15	365	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
22	403	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
29	415	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
May 6	384	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
13	394	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
20	737	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
27	692	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
June 3	744	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
10	810	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
17	806	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
24	728	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
July 1	822	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
8	828	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
15	828	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
22	817	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
29	865	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Aug. 5	821	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
12	815	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
19	817	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
26	786	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Sept 2	805	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
9	819	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
16	800	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
23	814	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
30	826	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Oct. 7	785	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
14	797	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
21	793	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
28	616	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Nov. 4	412	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
11	474	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
18	433	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
25	418	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Dec. 2	426	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
9	420	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
16	419	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
23	394	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
30	370	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Totals	30,754	35	28	23	121	6	23	56	119	8	2	16	8	4	4	88	20	4	...	113	678	

Others include—Pits, gasometer, drinking troughs, washing troughs, catchpits, wells, gullies, fresh water tanks, brackish water tanks fire-buckets, galvanized iron baths, old tins, aqueducts flower pots, vases, bottles, grindstones receptacles, flushing tanks, under-ground tanks wash-boilers, &c. &c., &c.

SUMMARY.

Tubs	3' 3	1st Offences	...	...	338
Barrels	22	2nd "	...	...	55
Earthenware Vessels	57	3rd "	...	...	3
Others	296	4th "	...	...	3
	—	7th and more offences	...	...	3
Total	678				

Total number of premises in which breeding places were found... 678

FLIES.

The usual measures were carried out during the year under review.

Household refuse was removed twice daily during the summer months, and all stables were visited regularly by a Sanitary Inspector and were disinfected once a week.

As has been pointed out in previous reports, the incidence of flies depends to a large extent on attention to sanitary details and proper disposal of refuse on the part of individual householders and owners of properties.

RATS.

Two rat-catchers were employed by the City Council throughout the year, whose services are available free of charge.

Trapping and poisoning were the methods employed. The use of barium carbonate biscuits appeared to give good results in ridding individual premises of rats. This form of poisoned bait also has the advantage of being cheap and easily manufactured locally.

A percentage of the rats collected is sent weekly to the City Analyst for examination. No plague infected rats were discovered during the year.

The following tables summarize the results for the year.

Rats destroyed during 1933, by Districts
(not including H.M. Dockyard).

	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept	Oct.	Nov.	Dec.	Total
Town District	212	178	216	180	229	239	259	276	267	275	239	224	2,794
South „	208	184	202	189	262	239	262	245	227	222	204	169	2,613
North „	26	30	27	41	41	38	46	44	48	42	50	42	475
Sheds and Warehouses Waterport Wharf and Commercial Mole	6	20	11	—	1	4	—	4	9	6	15	9	85
Total.....	452	412	456	410	533	520	567	569	551	545	508	444	5,967

Rats examined during 1933.

	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept	Oct.	Nov.	Dec.	Total
Infected	—	—	—	—	—	—	—	—	—	—	—	—	Nil
Uninfected	18	6	11	9	11	10	9	9	10	13	7	8	121

Number of poisoned baits laid by Rat Catchers during 1933.

Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept	Oct.	Nov.	Dec.	Total
7,317	6,045	5,083	2,428	3,747	3,375	3,667	3,432	3,654	3,669	3,278	2,866	4,8561

Total number of Rats destroyed during 1933.

	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept	Oct.	Nov.	Dec	Total
Civil and Colonial Property } Trapped ...	451	410	456	410	533	519	567	569	549	543	508	442	5,967
} Poisoned...	1	2	—	—	—	1	—	—	2	2	—	2	10
H.M. } Trapped ...	169	156	172	127	155	172	143	123	147	157	152	152	1,825
Dockyard } Poisoned...	19	24	22	27	20	26	37	17	25	27	24	23	291
Total.....	640	592	650	564	708	718	747	709	723	729	684	619	8,083

MEDICAL WORK OF THE COUNCIL.

The routine medical examination of all workmen prior to employment with the Council was continued during the year under review, the number examined by months being as follows :—

January	1
February	Nil.
March	27
April	2
May	7
June	8
July	12
August	4
September	1
October	2
November	1
December	Nil.
<hr/>	
Total	65
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Investigations are carried out in all cases of sickness and injury and if such are attributable to the nature of the work injury pay is allowed on the recommendation of the Medical Officer of Health.

Injured workmen are treated at the Colonial Hospital, the expenses being met by the Council.

The number of in-patients treated during the year was 6, and the total number of days in which men were absent from work due to disability was 723.

SERA, VACCINES, &c., KEPT IN STOCK.

The following vaccines and sera are kept in stock for issue to the Hospital and to private practitioners :—

Diphtheria Antitoxin.
 Anti-Meningococcus Serum (Polyvalent & Monovalent).
 Anti-Streptococcus Serum.
 Tetanus Antitoxin.
 Anti-Dysentery Serum.
 Anti-Anthrax Serum.
 Cholera Vaccine.
 Anti-Plague Serum.
 Anti-Plague Vaccine.
 Compound Catarrhal Vaccine.
 Scarlet Fever Streptococcus Antitoxin.
 Tetanus Antitoxin.
 Calf Lymph.

A quantity of Tuberculin (intradermal and subcutaneous) is also kept in stock for issue to the Veterinary Adviser.

DISINFECTION.

The disinfection of all premises in which cases of infectious diseases had occurred was continued during the year. The bedding and clothing etc., of patients was also disinfected in every instance.

The disinfection of premises is carried out by vapour or spraying with formaldehyde and cresol solution, and the bedding undergoes steam disinfection at the Council's Disinfection Station, North Front. These services are carried out under the strict supervision of a Sanitary Inspector.

All bedding brought into Gibraltar is required to undergo steam disinfection prior to being allowed in.

Stables were disinfected weekly during the fly breeding season.

The following statistics give the number and distribution of articles disinfected during the year.

DETAILS OF ARTICLES DISINFECTED BY MONTHS.

Month	Beds and Mattresses	Bolsters and Pillows	Blankets and Quilts	Sheets	Counterpanes.	Sundries.	Totals.
January	77	92	53	60	2	210	494
February	50	47	45	9	—	64	215
March	74	61	65	41	—	201	442
April	42	35	28	21	—	55	181
May	69	71	59	49	—	53	301
June	59	39	30	26	—	34	188
July	86	33	20	18	—	55	212
August	64	16	10	7	—	72	169
September	194	73	39	4	—	37	347
October	144	68	24	16	—	97	349
November	57	16	16	14	—	43	146
December	49	31	9	10	—	92	191
Totals	965	582	398	275	2	1,013	3,235

AMBULANCE FACILITIES.

A continuous day and night ambulance service is maintained by the City Council.

Two ambulances are available for the removal of cases, and three of the Sanitary Inspectors are qualified to drive these vehicles. There are two drivers permanently employed.

Details of cases conveyed in the ambulances during 1933 are as follows :—

	<i>Local Cases</i>	<i>Bay Cases</i>
Pulmonary Tuberculosis	—	1
Diphtheria	2	—
Pneumonia	4	6
Scarlet Fever	1	—
Puerperal Fever	1	—
Enteric Fever	1	—
Chicken Pox	1	2
Appendicitis	1	2
Miscellaneous	29	11
	—	—
Totals	40	22
	—	—

REPORT OF THE CITY ANALYST AND BACTERIOLOGIST.

The total number of specimens and samples of all classes submitted to the Public Health Laboratories during the year 1933 was 3,764.

The activities of the City Laboratories have been maintained and comprised pathological specimens from Colonial Hospital (626); Military Hospital and Veterinary Department (411); Navy (162); general practitioners of Gibraltar, public health specimens (including samples taken under The Food and Drugs Acts), and miscellaneous samples from City Council, Police, and the business community (2,565).

Three new Bye-Laws to the Public Health Ordinance, 1907, the Food & Drugs (Adulteration) Ordinance, 1931, dealing with sale of milk, including condensed and dried milks, became operative during the year.

The visit of an expert water engineer in August resulted in over one hundred additional samples of water being submitted. The result of an investigation as to composition and source of deposits on drain pipes was reported on.

A marked reduction is noticed in the number of positive laboratory specimens of notifiable diseases especially Diphtheria, Enteric and Dysentery. Blood sugar estimations have considerably increased, while the number of Food and Drugs samples have been reduced.

The report is divided into four parts as follows:—

- Part I—Foods and Drugs, Public Health Ordinance.
- Part II—Miscellaneous.
- Part III—Bacteriology, Chemical Pathology and Public Health Work.
- Part IV—Testing of ships for inflammable gas.

PART I—MILK.

Of the forty samples of milk which were taken by the Sanitary Inspectors twenty-seven were goats' milk, and thirteen were cows' milk. The number of samples found to be below the standards set out in the Public Health Ordinance was 22, or 55 per cent. Fifteen of these were goats' milk and seven were cows'. For comparison the number below the standard for 1932 was 43 or 18.8 per cent.

In cases where the City Council considered it advisable legal action was instituted. Four convictions were obtained, and fines amounted to £29 plus costs £4 3 0.

PARTICULARS OF ADULTERATED SAMPLES,
GOAT'S MILK CONTAINING ADDED WATER.

Lab. No.	Fat	Non-fatty Solids.	Added Water per cent.	Remarks.
1464	2.61	6.14	27.8	Fined £10 + costs £1-0-0.
1466	3.26	7.08	11.5	Fined £10.

COW'S MILK DEFICIENT IN FAT.

Lab. No.	Fat	Non-fatty solids.	Fat deficiency per cent.
1369	2.90	8.70	3.0
1375	2.85	8.65	5.0

IMPORTED MILKS NOT BOILED, PASTEURISED OR STERILISED.

Lab. No.	Milk.	Percentage of unboiled milk.	Remarks.
756	Goat	1.0 approx.	No action taken.
757	Cow	2.0 „	„
758	Cow	2.0 „	„
1465	Cow	100	Fined £4 + costs £1-0-0.
1191	Goat	100	Fined £1 + costs £1-3-0.
1466	Cow	100	Fined £4 + costs £1-0-0.

GOAT'S MILKS SHOWING FAT DEFICIENCY.

Lab. No.	Fat %	Non-fatty Solids %	Fat deficiency %	Remarks.
752	3.30	9.00	5.7	Declared skimmed.
753	3.30	9.00	5.7	do. do.
754	3.30	9.30	5.7	do. do.
755	3.45	9.20	1.4	do. do.
756	3.45	8.85	1.4	do. do.
890	3.20	9.05	8.5	do. do.
891	3.0	9.25	14.0	do. do.
892	3.1	9.25	11.0	do. do.
894	3.0	8.75	14.0	do. do.
895	3.0	9.00	14.0	do. do.
896	3.0	9.00	14.0	do. do.
897	3.1	9.00	11.0	do. do.
1192	3.4	8.60	3.0	do. do.
1194	3.25	9.15	7.0	do. do.

The statutory limit for fat in goats' milk is 3.5 per cent.

AVERAGE COMPOSITION OF MILKS.

The average composition of goats' milk was :—

Milk fat3.55 per cent.

Non-fatty Solids9.12 per cent.

The average composition of cows' milk was :—

Milk fat4.04 per cent.

Non-fatty Solids8.69 per cent.

BYE-LAWS.

Three new Bye-Laws, dealing with the sale of milk, became operative during the year. These are cited as follows :—

Public Health (Condensed Milk) Bye-Laws 1933.

Public Health (Dried Milk) Bye-Laws 1933.

Public Health (Milk and Dairies) Bye-Laws 1933.

CONDENSED MILK.

The bye-laws dealing with condensed milk follow closely the English legislation for this article. Rules with respect to suitable labelling are provided. The declarations on the tins shall in each case be completed by inserting whether (1) (a) Full cream, or (b) condensed skimmed milk, (2) Sweetened or unsweetened (3) the appropriate number in words and figures that represents the equivalent in pints of milk contained in each tin, and (4) in the case of condensed skimmed milk the statement "Unfit for Babies" in large type in a separate surrounding line.

The second schedule of this bye-law contains the appropriate percentage of milk fat, and milk solids as specified in the following table:—

Description of Condensed Milk.	Percentage of Milk fat	Percentage of all milk solids including milk-fat.
1. Full cream, unsweetened.	9.0	31.0
2. Full cream, sweetened.	9.0	31.0
3. Skimmed, unsweetened.	—	20.0
4. Skimmed, sweetened.	—	26.0

For the purposes of these bye-laws milk means milk which contains not less than 12.4 per cent. of milk solids (including not less than 3.6 per cent. of milk fat), and skimmed milk means milk which contains not less than 9.0 per cent. of milk solids other than milk fat.

DRIED MILK.

These bye-laws, dealing with the sale of milk, are also based on the English legislation for this article. Labels showing the class, etc., as in condensed milk, are demanded. Full cream, partly skimmed, and skimmed milk are provided for.

Each tin shall be labelled stating the equivalent in pints of either (1) milk, (2) cream milk, (whether three quarter, half or quarter), or (3) skimmed milk, as the case may be, that the tin contains.

The term cream milk refers to three classes, (1) three-quarter cream milk, (2) half cream milk, and (3) quarter cream milk. The standards for each of these varieties of cream milk are given as follows:—

	Milk-fat per cent	Milk-solids (per cent) including milk fat.
Milk	3·6	12·4
Three quarter cream milk.	2·5	11·6
Half cream milk.	1·8	10·8
Quarter cream milk.	0·9	9·9
Skimmed milk.	—	9·0 (other than fat).

The three varieties of dried milk are defined according to their composition and may be referred to as:—

Dried, full cream milk—containing not less than 26 per cent. of milk fat.

Dried, partly skimmed milk—containing less than 26 per cent. of milk fat but not less than 8·0 per cent.

Dried, skimmed milk—containing less than 8·0 per cent. of milk fat.

Dried skimmed milk shall be labelled “Unfit for Babies” and dried partly skimmed milk “should not be used for babies except under medical advice.”

MILK AND DAIRIES BYE-LAWS.

The object of these bye-laws is the control of the milk supply of Gibraltar, and all bye-laws of the Public Health Ordinance, 1907, dealing with this subject are revoked.

Of special interest to Gibraltar is the introduction of a new rule demanding the marking of every churn, vessel or other receptacle used for the conveyance of skimmed milk, or for containing such milk, when exposed for sale—the words “skimmed milk” or “separated milk,” as the case may require, being used in large and legible type.

For many years attention has been drawn to the large proportion of imported goats’ milk which is deficient in milk fat when sold to the public. For the year 1933 over 50 per cent. of the goats’ milk samples were below the statutory limit of 3·5 per cent. of fat. At times as much as 40 per cent. of the fat has been found to be extracted. It is seen therefore that some control over the sale of this article was necessary.

IMPORTED UNBOILED MILK.

As a large proportion of Gibraltar's milk supply comes from Spain, over which the City Council has no control, the only safe protection against the introduction of milk borne diseases (Enteric, Undulant fever, etc.) is by boiling the milk before vending. This is a wise and necessary precaution. The offering, or exposing for sale, of unboiled imported milk is a serious offence, and one with which the magistrates, deal severely. Among last year's samples three (Cows' 2, Goats' 1) milks were found not to have been boiled, pasteurised, or sterilised. Three other samples showed evidence of the presence of some unboiled milk, amounting to approximately two per cent. Though this amount is small the introduction of any unboiled milk is equally fraught with danger as the whole bulk would quickly become infected with rapidly multiplying virulent organisms if present. In explaining the danger to the offending dairymen in these cases, they admitted returning the bulk of boiled milk to the original receptacle, which unless washed, would contain some of the original raw milk.

COWS' MILK.

Milk from cows kept in Gibraltar was repeatedly tested for Tubercle Bacillus. On no occasion was it found.

CONDENSED MILK.

Five samples of condensed milk gave the following percentage results :—

	A	B	C	D	E
Water	67·88	67·58	67·64	24·29	23·95
Milk-fat	9·40	9·34	9·40	9·41	9·09
Proteins	8·75	9·28	9·18	9·37	8·92
Lactose	12·35	12·21	12·26	11·08	11·65
Cane Sugar	—	—	—	44·12	44·65
Ash	1·62	1·50	1·52	1·73	1·74
	100·00	100·00	100·00	100·00	100·00
All milk solids	32·12	32·42	32·36	31·59	31·40

PART II—MISCELLANEOUS.

Samples received for analysis and report under this heading numbered 105, and were as follows:—

- 4 samples of tobacco—To determine extent of damage and whether wetted with sea or rain water.
- 1 sample of olive oil—for purity.
- 1 blood smear (dog)—examination for *Leptospira Ictero hæmorrhagica* and piroplasmosis.
- 1 lung of cow—evidence of tubercular infection.
- 1 blood smear of horse—for Piroplasmosis.
- 1 faeces of mare—for evidence of strangles.
- 1 sterilising powder—for percentage of available chlorine.
- 2 samples wheat flour—for analysis.
- 3 samples S.V.R. spirit—to determine if adulterated with water.
- 1 sample milk—for bacteriological analysis.
- 9 cows' milks—analysis, pus and evidence of Tubercle B.
- 10 coals—analysis and calorific power.
- 2 samples soot—analysis.
- 1 white powder—for cocaine, morphia, etc.
- 1 sausage—bacteriological examination and cause of decomposition.
- 1 contents of stomach } dog—toxicological analysis.
- 1 contents of intestines }
- 1 phial of tabloids—toxicological analysis.
- 1 bottle liquid—toxicological analysis.
- 1 sample of lobster } Bacteriological and
- 1 vomit } toxicological analysis.
- 1 faeces }
- 1 stain of trousers } —examination for blood.
- 1 stain on broom handle }
- 1 sample of Cooper's dip—for analysis.
- 12 samples of dipping fluid—estimation of arsenic and arsenious oxide.
- 1 litre N/50 Sulphuric acid—made and supplied.
- 1 sample of Pudlo—for analysis.
- 1 substance from tank—for identification.
- 1 sample of powder—identification.
- 1 material from Sewer—identification.
- 1 sausage—cause of decomposition.
- 3 deposits in Sewer.
- 1 water (lower gully)
- 1 water (upper gully)
- 1 material in boilers
- 3 samples of water
- 1 material from Retort house

Investigation of cause and source of sewer deposit.

- 1 butter—analysis.
- 1 litre Carbol saline—supplied
- 1 boiler deposit—nature of substance
- 2½ litres glucose saline—made and supplied.
- 1 soil from boring—analysis.
- 3 sewer deposits—nature of material.
- 3 swabs of teeth—bacteriological examination.
- 1 Tryparsamide—prepared and supplied.
- 2 of triple distilled water—supplied.
- 1 “shell” dressing—bacteriological examination.
- 1 liver }
- 1 lung } dog—for Piroplasmosis
- 1 spleen }
- 5 margarines—analysis and report
- 1 sack—effect of ammonia on.
- 3 condensed milks—for analysis and report.

SCALE ON SEWER.

A deposit is continuously formed on a drain pipe in the South district. The composition of the scale and its source was investigated and reported on to the City Engineer. The deposit consisted chiefly of Calcium Carbonate (lime). Analysis of numerous materials from sedimentation pits, waters, etc., showed that lime was contained by a natural spring which enters the drain. It is thought that this is the source of the lime deposit.

TOXICOLOGICAL AND FORENSIC.

- (1) A white powder suspected to be Arsenic—The powder consisted of Pot. Sod. Tartrate and Sodium Bicarbonate. It was probably the contents of the blue packet of Seidlitz powder. No trace of arsenic was detected.
- (2) Contents of stomach and intestines of dog—Strychnine, Arsenic, Copper, Lead and Antimony, were not found. Much grass in large balls of long blades was present in both.
- (3) One phial of tablets for identification—
 - (a) Brownish yellow tablets proved to be Morphine tartrate.
 - (b) Small white tablets were of Morphine hydrochloride.
- (4) One bottle containing 17 cubic centimetres of liquid was found to be a 4.45 per cent. of cocaine hydrochloride in water. Total amount of cocaine HCl was therefore 11.75 grains.
- (5) (1) Lobsters } Food poisoning organisms, Arsenic,
 (2) Faeces } Antimony and poisonous metals not
 } found.

- (6) Trousers and a broom handle—The red stains on both were found to be blood.
- (7) Decomposing sausages containing a fungus.

FOOD POISONING.

Numerous cases (over 80) of food poisoning with the usual symptoms of vomiting, diarrhœa and gastric pains occurred on a passenger ship visiting Gibraltar. The ship's doctor on arrival, submitted gastric contents, faeces, water, and boiled lobsters for investigation as to cause and source of the outbreak. No evidence of mineral poisons could be found. Arsenic and Antimony were also not detected. Micro-organisms of the food poisoning group could not be isolated from either of the materials sent. Feeding experiments with the lobsters however caused severe vomiting and diarrhœa which went to prove that they were the vehicle of contamination. The explanation of the outbreak lies in fact that the lobsters at one time harboured food poisoning organisms (*Salmonella* group) which were killed when the lobsters were boiled. Their toxins being thermo stabile, remained in the lobsters and were consequently absorbed into the system with the meal.

NORTH FRONT NATURAL WATERS.

During August at the invitation of the City Council a visit was paid by an expert water engineer to investigate the natural waters occurring at the North end of the Colony. As a result of many borings at different depths over one hundred samples of water were submitted for analyses. The main object of these analyses was to determine the possible presence of sea water, and in some instances bacteriological analyses were undertaken. The presence of abnormal amounts of chlorine in a water sample does not prove conclusively that sea water has gained entrance, though it would point to this conclusion being so near the sea. Other factors have been made use of relating to the ratio of (1) Magnesia to lime; (2) Chlorides to sulphates; (3) Sodium to magnesium. These ratios, as will be shown later, are significant, and may be considered deciding factors when reporting on the possible presence of sea water in an otherwise fresh supply for this district. Samples of water from borings a few feet deep contained chlorine in normal amounts while samples from the same borings, obtained after passing an impermeable strata at about twenty feet, contained chlorine in excessive quantities. In another instance water appearing to percolate direct from the "Rock" contained much chlorine. From the figures of mineral analyses of six specially selected waters containing excess of chlorine a firm of Analytical Chemists in London concluded

that the presence of sea water was the cause of the high chlorine content in all six samples. They based their conclusions on the ratio of Magnesium to Sodium found in the samples. The ratio was constant and agreed closely with that found in pure sea water. I am able to show also that other ratios (stated above) occur which are also significant and confirm the conclusions arrived at in London. In one instance only three per cent. of sea water was calculated to be present yet the three ratios referred to held good for sea water contamination. Entirely different ratios were obtained when examining waters which percolate from the "Rock" far too high above sea to allow of sea water contamination. In one of these although chlorine and sulphates were prevalent (as in sea water) there was no indication when comparing ratios that sea water was present.

Points observed were :—

Water containing sea water.	Rock water not containing sea water.
(1) Magnesia exceeds lime approx. 2 to 1	Lime exceeds magnesia approx. 3 to 1
(2) Chlorides exceed sulphates by approx. 8 to 1 (constant).	Chlorides exceed sulphates by only 3 to 1
(3) Sodium exceeds magne- sium by approx. 4.5 to 1 (constant)	Sodium exceeds magnesium by only 2 to 1

In the following table the ratios for sea water are included for comparison with the other eight waters examined, six of which are contaminated with sea water and the other two are not.

WATERS CONTAMINATED WITH SEA WATER.

	Sample	Ratio of Lime (CaO) to Magnesia (MgO)	Ratio of Magnesium (Mg) to Sodium (Na)	Ratio of Chlorine (Cl ₂) to Sulphates (SO ₃)	Amount of sea water present per cent.	Chlorine (100,000)
1	Sea water	1 is to 3	1 is to 5.5	9 is to 1	100	2000
2	Magazine Cave	1 is to 1.3	1 is to 2.7	7 is to 1	3	63
3	No. 3 Well	1 is to 2.0	1 is to 4.5	8 is to 1	37	752
4	Orillon E	1 is to 2.0	1 is to 4.6	8 is to 1	32	641
5	Orillon N.	1 is to 2.5	1 is to 4.9	8.5 is to 1	34	687
6	No. 1 Well	1 is to 2.0	1 is to 4.1	8 is to 1	57	1148
7	No. 3 Well rivet holes	1 is to 2.8	1 is to 4.5	9 is to 1	30	616

WATERS NOT CONTAMINATED WITH SEA WATER.

8	Rock water (gas works)	3 is to 1	2.9 is to 1	3 is to 1	none	157
9	Dripping from roof of Reservoir No. 6	4 is to 1	1 is to 2	3 is to 1	none	4.8

THE HOUNDS AND LEISHMANIOSIS.

Each year soon after the rainy season a disease having the clinical symptoms of Leishmaniosis attacks the hounds of the Royal Calpe Hunt with high mortality. Like Red Water fever, Spirochætosis, East Coast Fever, and Gall sickness of cattle, canine Leishmaniosis is thought to be conveyed by the tick, of which many were found on the hounds. In South Africa and elsewhere tick borne diseases are combated by eliminating the tick. This is done by plunging (dipping) farm stock in a weak solution of arsenic at regular intervals. The Veterinary Officer agreed to my suggestion to apply this method to the hounds and an experimental dipping tank was fixed up. Five hounds (later ten) were selected for weekly dippings in an arsenical solution containing 0.100 per cent. of Arsenious Oxide (As_2O_3 .) The whole body including the head is submerged. This was continued weekly for two and a half months. The hounds stood the dip well without ill effects and remained free of ticks. A fixed cement dipping tank has now been built and during the tick season of 1934 all of the hounds will be submitted to this treatment. How far the process will prevent Piroplasmosis will be watched with interest.

The secret of successful dipping depends on keeping the dipping fluid at a constant strength of 0.100 per cent. As_2O_3 . Weekly analyses were therefore necessary and the solution corrected when departure from the standard was noticed.

Stronger solutions tend to "scald" the skin and weaker solutions would have little effect on the tick.

PART III—BACTERIOLOGICAL, CHEMICAL PATHOLOGY, AND
PUBLIC HEALTH WORK.

	<i>No. of Specimens.</i>
Drinking water and others	400
Swabs; B. Diphtheriæ, Vincent's organisms, etc.	271
Sputa; T.B. and other causative organisms	189
Blood; Widal, T.A.B. and Br. M.	
Blood; Goats, widal for Undulant fever ...	109
Blood; Count	65
Blood; Smears, Malaria, Anthrax, etc.....	26
Blood; Culture of organisms, Enteric, etc.	31
Blood; Sugar estimations; Sugar tolerance tests	235
Blood; Urea estimations, urea concentra- tion factor	32

Blood; Wassermann	366
Blood; Calcium estimations	2
Blood; Van der Bergh's test	2
Naso-pharyngeal swab	1
Cerebro-spinal fluid	4
Pleural Fluid	4
Urine;	1,141
Urine; (Urea concentration test)	42
Pus; Gonococcus and other causative organisms	108
Faeces; Bacteriological for Enteric, Dysentery, food poisoning organisms, etc.	79
Breast Milk	16
Serum; from V.S. for detection of Tr Pallidum (dark ground)	12
Rats; Examination for Plague	112
Histological; Cutting, fixing, staining sections	6
Gastric contents—including fractional test meals	47
Guineapig inoculations; Virulence test on K.L.B. and T.B.	8
Autogenous vaccines prepared	23
Stock vaccines diluted	22
*Miscellaneous	31
	<hr/>
	3,613
	<hr/>

*Miscellaneous consisted of eye swabs, seminal fluids, calculi, occult blood examinations, sweat from groin, teeth swabs, uterine scrapings tape worms, etc.

ANIMAL INNOCULATIONS.

These were confined chiefly to the inoculation of guinea pigs to determine the virulence of Diphtheria germs obtained from swabs. Five virulence tests were undertaken, of these three were fully virulent while two were non virulent. One injected urine sediment suspected to contain Tubercle B. had no effect on the guinea pig.

TUBERCLE BACILLUS.

A variety of specimens were submitted for examination for Tubercle Bacillus—Sputa, Cerebro-spinal fluids, pleural fluids, urine, faeces, and pus. Of the 189 sputa examined, 29 contained the organism. In two of the pleural fluids received the cytological examinations pointed to tubercular infection.

VENEREAL DISEASES.

The usual routine examinations of blood and Cerebro-spinal fluid for Wassermann reaction, serum from primary sores for the presence of *Tryponema Pallida* by dark ground illumination method, and pus smears for gonococci were undertaken. Of 366 bloods for Wassermann, 30 were positive; of 12 sera, 2 contained *Tr. Pallida*; and of 108 smears examined for Gonococci, 35 were positive. Urine sediments obtained by centrifuging were also examined for Gonococci in some instances. The Wassermann reaction is practised in preference to the Sigma test as being more universally understood when interpreting results.

DIPHTHERIA.

In the examination of throat swabs only the true Klebs—Loeffler Bacillus is considered. Of the large number of swabs received six were new positive cases. *B. Diphtheria* was found in two other patients' throats. These by guinea pig inoculation were shown to be non-virulent. Three of the eight cultures were found to be fully virulent. The guinea pig inoculation virulence test is resorted to when patients persist in carrying the germ in spite of treatment. For the previous year fourteen new cases were diagnosed by laboratory methods.

VINCENT'S ANGINA.

This ulcerative condition of the throat was not prevalent, but all swabs from suspicious throats which were negative for Diphtheria were systematically examined for Vincent's organisms. Three cases were positive.

MALARIA.

One blood smear only of the six patients examined contained the malaria parasite.

ANTHRAX.

Eighteen blood smears of animals which had died suddenly were examined for Anthrax Bacillus. All were negative.

PLEURAL FLUIDS.

Of the four specimens received two having numerous small lymphocytes pointed to a Tubercular infection. Another patient's fluid on two consecutive occasions showed Pfeiffer's Bacillus as the only organism present. Polymorphonuclear cells in this case predominated. Cytological and Bacteriological examinations are carried out on all pleural fluids received.

CEREBRO-SPINAL FLUIDS.

Enumeration of white cells with estimation of sugar and globulin and bacteriological examination are conducted on each specimen. No case of meningitis due to *Tr Pallida*, *Meningococcus*, *Tubercle Bacillus*, *pneumococcus* and *Encephalitis Lethargica* were encountered during the year. Urea was estimated in one specimen which contained 17 milligrams in 100 c.c. The Wassermann test was conducted on four specimens with negative results.

GASTRIC DISORDERS AND FRACTIONAL TEST MEALS.

The analyses of gastric contents in the laboratory diagnosis of gastric ulcer, carcinoma, hypersecretion, etc., were undertaken for two patients. The laboratory examinations of fractional test meals entailed the estimation of free hydrochloric acid and total acidity, and the detection of blood, pus cells, bile, starch and mucus in each specimen before and every fifteen minutes after, taking the test meal. From each patient thirteen specimens are taken. In each case a curve is plotted showing the percentages of free hydrochloric acid and total acidity in relation to the 15 minutes intervals. Twenty-two other single vomit specimens were analysed.

RENAL EFFICIENCY TESTS.

In connection with kidney diseases the efficiency of the kidneys in eliminating the waste nitrogenous products (urea) of the body is gauged by two methods (1) Urea Concentration factor, (2) Urea Concentration test.

UREA CONCENTRATION FACTOR.

Estimations of blood urea, and urine urea are done at the same time. The ratio of one to the other gives the number of times the kidneys are able to concentrate in the urine the urea in the blood. The normal factor of this is about 70 times or sometimes more.

The test was conducted on 30 patients.

Four of the results are given which show the variations obtained in different patients.

<i>Case.</i>	<i>Blood Urea</i> (mgms. in 100 c.c.)	<i>Urine Urea</i> (mgms. in 100 c.c.)	<i>Urea concentration</i> <i>factor (Mclean).</i>
1	40	2150	53.7—Medium
2	22	2700	122.7—Very good
3	28	2000	71.4—Normal
4	43	500	11.6—Very bad

UREA CONCENTRATION TEST (MACLEAN).

The amount of urea in the urine is determined one hour and again two hours after the patient has taken 15 grams of urea dissolved in a tumbler of water. In normal conditions 2.5 per cent. of urea or more is to be expected.

The test was carried out on eight patients.

BLOOD SUGAR ESTIMATIONS AND SUGAR TOLERANCE TESTS.

During the year 235 estimations of blood sugar were done. These are chiefly individual tests made on diabetic patients periodically for guidance in Insulin treatment. Complete sugar tolerance test was done on seven people for the diagnosis of diabetes. All patients attend the laboratory. The results of these seven patients will be given in detail. Maclean's method is found very satisfactory.

Patient	<i>Blood Sugar before giving 50 gms. glucose</i>	<i>Blood Sugar (%) after taking sugar.</i>				
		$\frac{1}{2}$ hr.	1 hr.	$1\frac{1}{2}$ hrs.	2 hrs.	$2\frac{1}{2}$ hrs.
1	0.100 normal	0.178	0.123	0.113	0.109	
2	0.353	0.372	0.418	0.456	0.460	0.493
3	0.284	0.443	0.492	0.498	0.462	0.454
4	0.103 normal	0.178	0.132	0.119		
5	0.171	0.218	0.276	0.208	0.146	0.111
6	0.197	0.345	0.418	0.329	0.265	0.209
7	0.150	0.119	0.128	0.109	0.128	0.086

Patient 1. Sugar in urine during the test—points to early diabetes.

Patient 2. Shows the poor sugar storage of true diabetes.

Patient 3. Shows the poor sugar storage of true diabetes.

Patient 4. No urine sugar before or after the test—no evidence of diabetes.

Patient 5. Sugar in urine after the test, a high blood sugar with slow storage points to a diabetic condition.

Patient 6. Shows the poor storage of sugar of the true diabetic.

Patient 7. Sugar did not rise above 0.128 per cent. with fluctuations. An unusual curve definitely not diabetic. Patient suffered from severe eczema.

NOTIFIABLE DISEASES.

The table given below shows the nature and number of specimens examined with results obtained in connection with notifiable diseases and Venereal diseases.

	<i>Total.</i>	<i>Positive.</i>
Blood, Wassermann	366	30
Pus for Gonococcus	108	35
Sputum for Tubercle Bacillus	189	29
Swabs for B. Diphtheriæ	271	41
Vincent's organisms		3
Blood for Malaria parasites	6	1
Serum for Tr. Pallidum	12	2
Smears for Anthrax B. (animals)	18	—
Guinea pig inoculations (virulence K.L.B.)	5	3
Widal reactions for Enteric, Undulant fever:—		
B. Typhosus		9
B. para typhosus A.		5
B. para typhosus B.	221	16
Br. Melitensis		—
Faeces for Enteric and Dysentery:—		
B. Typhosus		6
B. para typhosus A.		1
B. para typhosus B.	79	—
B. Dysenteriae Flexner		1
Amoeba Histolitica		—
B. Dysenteriae Shiga		—

DISTRIBUTION OF SPECIMENS.

For record purposes all specimens and samples examined during the year are allocated as follows:—from Military authorities 411; from Naval authorities 162; from Colonial Hospital 626; from Spain and elsewhere 74; and from Civil, which includes the City Council, medical practitioners and general public 2,491—Total 3,764.

DISTILLED WATER.

Distilled water is now supplied by the Colonial Hospital. The amount received was 809 gallons of which 646 gallons were sold and the remaining 163 gallons were kept for laboratory use.

EQUIPMENT.

An electrical incubator has been installed in the Bacteriological laboratory.

DRINKING WATERS AND OTHERS.

Constant supervision of Gibaltars' dietetic waters necessitates numerous bacteriological examinations. The City's public supply was tested monthly (each reservoir separately). It remained unpolluted during the year. A large number of houses collect rain water in their own private underground tanks. In any suspected contamination a sample is referred to the laboratory. Military private tanks are systematically examined yearly. The 400 samples examined are tested as follows:—Willis's Road Reservoirs 52; Governor's Parade Fountain 11; Sea water 11; Brackish water 13; North Front Wells 37; Watering Jetty water 13; Water from borings N.F. 47; Catalan Bay wells 17; Spring water 5; Tunnel water 6; Ragged Staff cave 10; Algeciras water 4; Tank boats 2 and Underground tanks 172,—Total 400.

PART IV.—TESTING OF SHIPS.

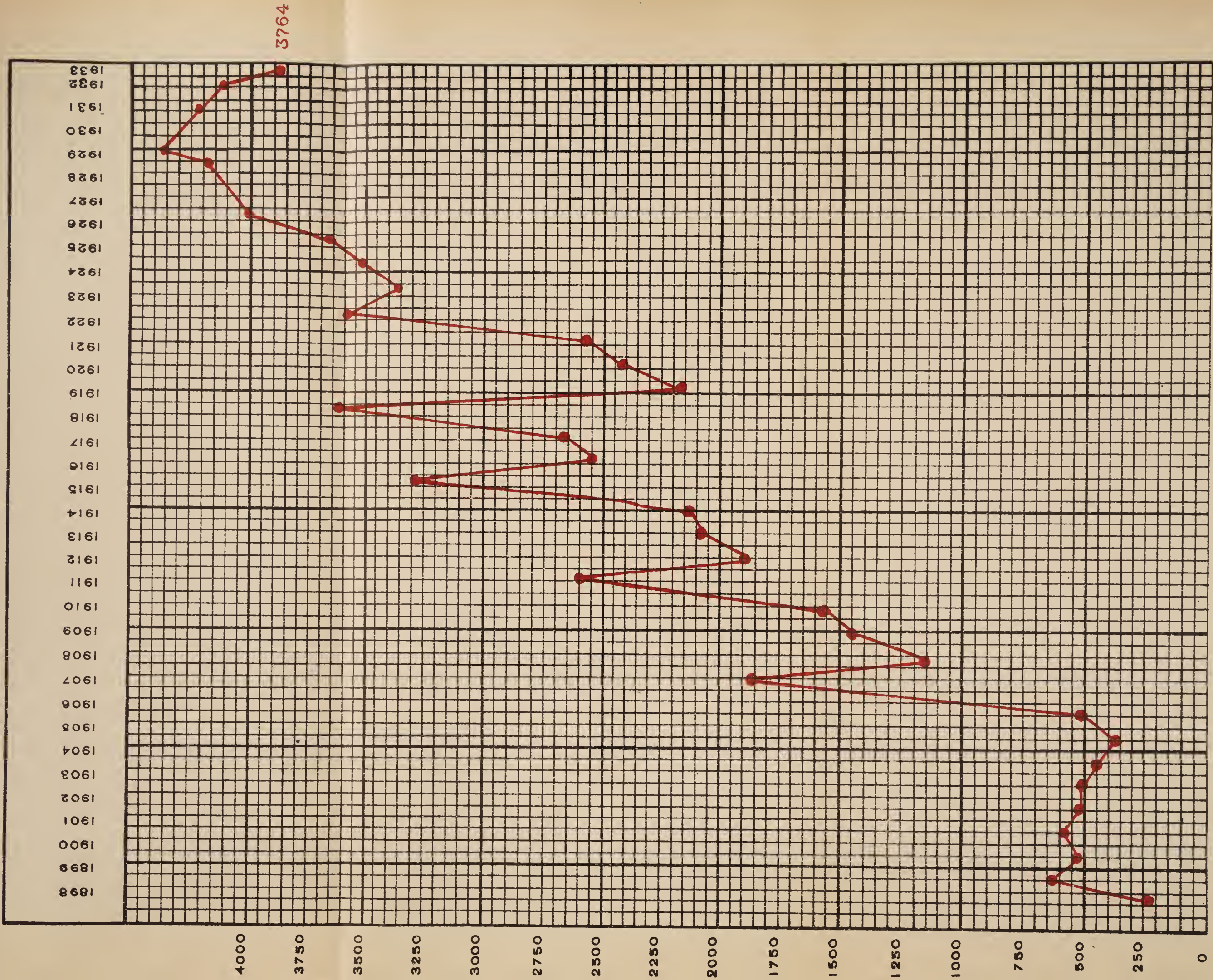
Inflammable and poisonous vapours—The City Analyst is entrusted with the testing of compartments of oil carrying tankers and others. Gas free certificates are necessary before ships of this class enter dry dock for repairs. Gas free certificates were given for six ships. The main tanks, engine room, cofferdams and summertanks are tested.

A. GEO. HOLBOROW, *F.I.C.*,

City Analyst and Bacteriologist

CITY COUNCIL OF GIBRALTAR.

CHART SHOWING NUMBER OF SAMPLES ANALYSED PER ANNUM SINCE THE YEAR 1896.



DISTRIBUTION OF SPECIMENS.

Nature of Specimen.	Civil.	Military.	Navy Received from Military Hospital.	Navy.	From out of Gib- raltar.	Colonial Hospital.	Total.
Blood, Wassermann ...	196	44	5	15	7	99	366
Blood, Count ...	36	3	1	9	1	15	65
Blood, Culture ...	1	19	8	...	2	1	31
Blood, Sugar ...	94	5	...	...	6	130	235
Blood, Urea ...	24	1	1	...	3	3	32
Blood Widal ...	146	39	11	2	3	20	221
Blood Malaria ...	6	1	...	...	...	1	8
Blood Calcium ...	2	...	...	...	...	...	2
Blood Vantden Bergh test ...	...	1	...	...	...	1	2
Blood for Anthrax, &c. ...	2	16	...	...	...	...	18
Goats' blood for Br. M. ...	109	...	...	...	...	...	109
Swabs for K.L.B., &c. ...	180	18	5	13	...	55	271
Sputum ...	93	17	...	8	3	68	189
Urine ...	880	27	6	6	41	181	1,141
Fæces ...	12	42	2	...	1	22	79
Cerebro-Spinal Fluid ...	1	9	...	...	...	2	12
Puss, Gonococci, &c. ...	70	3	...	18	...	17	108
Serum for Tr. Pallidum ...	2	...	...	9	1	...	12
Human Milk ...	15	...	...	...	...	1	16
Histological ...	...	6	...	...	...	...	6
Gastric contents ...	9	25	12	...	1	...	47
Rats for Plague... ..	112	..	...	...	...	...	112
Food and Drugs Acts ...	40	..	...	...	...	...	40
Other food, drinks, &c. ...	41	9	...	...	...	...	50
Waters ...	279	94	...	22	4	1	400
Pleural fluid ...	1	...	2	...	...	1	4
Auto-Vaccine ...	19	4	...	...	...	...	23
Stock Vaccine ...	19	...	...	3	...	...	22
Guinea pig inoculation ...	4	3	...	...	...	1	8
Urea Concentration test ...	39	...	...	...	...	3	42
Coal ...	14	...	...	...	...	...	14
Naso-pharyngeal swab ...	...	1	...	...	...	...	1
Miscellaneous ...	45	24	...	4	1	4	78
Total ...	2,491	411	53	109	74	626	3,764

RESULTS OF MONTHLY ANALYSES OF
GIBRALTAR DRINKING WATER—1933.

Date	Chlorine (parts per 100,000).	B. Coli
Feb. 27	2.6	Present in 5 c.c.
Mar. 23	2.4	do. do.
Apr. 25	2.4	do. in 10 c.c.
May 26	2.8	do. do.
June 27	2.3	Not found in 25 c.c.
July 31	2.2	do. do.
Aug. 29	2.0	do. do.
Sept. 25	2.8	do. do.
Oct. 30	1.6	Present in 5 c.c.
Nov. 27	1.0	do. in 10 c.c.
Dec. 29	1.2	do. do.
Average ..	2.1	

RESULTS OF MONTHLY ANALYSES OF WELL WATER—1933.

SAMPLES TAKEN AT NO. 5 WELL, NORTH FRONT.

Date	Chlorine (parts per 100,000).	B. Coli
Jan. 6	80.0	—
Feb. 27	8.8	Present in 0.1 c.c.
Mar. 23	7.6	do. do.
Apr. 25	5.0	do. do.
May 26	2.5	Present in 1 c.c.
June 27	4.5	Present in 0.1 c.c.
July 31	5.5	do. do.
Aug. 4	3.6	—
„ 29	3.6	Present in 0.1 c.c.
Sept. 25	8.5	do. do.
„ 29	10.1	Present in 2 c.c.
Oct. 30	5.5	Present in 0.1 c.c.
Nov. 27	7.5	do. do.
Dec. 29	6.0	Present in 0.1 c.c.
Average ...	11.3	

RESULTS OF MONTHLY ANALYSES OF SEA WATER - 1933.

Date.	Chlorine (parts per 100,000).	B. Coli
Feb. 27	2,000·0	Present in 1 c.c.
Mar. 23	2,070·0	do. do
Apr. 25	2 010 0	Present in 0·1 c.c.
May 26	2,030·0	Present in 1 c.c.
June 27	2,020·0	Present in 0·1 c.c.
July 31	2,030·0	Present in 1 c.c.
Aug. 29	2,010·0	do. do.
Sep. 25	2,020·0	Present in 0·1 c.c.
Oct. 30	1,980·0	do. do.
Dec. 29	2,050·0	do. do
Average	2,022·0	

RESULTS OF MONTHLY ANALYSES OF BRACKISH WATER—1933.

SAMPLES OBTAINED FROM MAIN IN GOVERNOR'S PARADE.

Date	Chlorine (parts per 100,000).	B. Coli
Feb. 27	620·0	Present in 5 c.c.
Mar. 23	660·0	Present in 0·1 c.c.
Apr. 25	690·0	do. do.
May 26	790·0	Present in 1 c.c.
June 27	730·0	Present in 0·1 c.c.
July 31	730·0	Present in 1 c.c.
Aug. 29	710·0	do. do.
Sep. 25	720·0	do. do.
Oct. 30	760·0	Present in 0·1 c.c.
Nov. 27	750·0	do. do.
Dec. 29	640 0	do. do.
Average	709·0	

RESULTS OF ANALYSES OF BOILER WATER—1933.

SAMPLES TAKEN AT WATERING JETTY.

Date	Chlorine (parts per 100,000).	B. Coli
Feb. 27	21.2	Not found in 25 c.c.
Mar. 23	21.2	Present in 10 c.c.
Apr. 25	18.5	Present in 0.1 c.c.
May 26	15.0	Present in 1 c.c.
June 27	15.0	do. do.
July 31	22.0	do. do.
Aug. 29	17.6	do. do.
Sep. 25	17.0	do. do.
Oct. 13	20.5	—
„ 30	20.5	Present in 1 c.c.
Nov. 27	18.0	do. do.
Dec. 29	17.5	Present in 0.1 c.c.
Average ...	18.6	

SANITARY CIRCUMSTANCES OF THE DISTRICT.

Much of the information given in this section of the report has been kindly supplied by Mr. W. H. Pearce, M.Inst.C.E., F.S.I., M.Inst.W.E., City and Water Engineer, and the section on Housing is compiled from notes kindly supplied by Captain H. St. C. Garrood, M.C., L.R.I.B.A., Crown Surveyor and Engineer.

WATER SUPPLY.

Three classes of water are at present supplied by the City Council, viz.: (a) Potable Water; (b) Brackish Water; and (c) Boiler Water.

During the year 1933, the search for an additional supply of potable water within the limits of the Colony has been continued, and recent experiments, borings and tests at North Front are encouraging.

A sub-Committee of the City Council has been formed so that closer contact can be made with the City Engineer and the experimental works now going on, and a scheme for supplying about 6,000 gallons of potable water per hour to Waterport Wharf will be ready for consideration almost immediately.

During the summer it is also hoped to do something in the way of tunnelling into the Rock to trace the springs of water issuing at the Orillon.

The demands for potable water are now increasing and, if an additional supply from wells or borings can be brought into operation, it will form an event of the first importance.

(a) POTABLE WATER.

This water is collected directly from the rainfall upon specially prepared catchments areas some 35 acres in extent, and stored in six large reservoirs constructed in excavations in the heart of the Rock and in a service reservoir, constructed in the open, near Moorish Castle.

A system of gravitation pipes conveys the water from the reservoirs to the houses, wharves and public points of supply.

The total storage accommodation for potable water is now approximately $9\frac{1}{2}$ million gallons.

The excavation for an additional reservoir (No. 7) in the heart of the Rock to hold 1,100,000 gallons is at present in progress and, a scheme is being prepared for the construction of another reservoir of similar capacity and to be known as No. 8.

During the dry season of the year 1933, repairs were effected to the concrete filling of the natural rock collecting areas on the western side of the Rock, and further renewals were carried out to portions of the catchment area on the eastern side which is constructed of corrugated iron sheets on timber framing.

A further extension to the network of the supply mains in the City was effected during the year by the laying of new mains in Church Lane, Cannon Lane, Library Street and a portion of Main Street.

The quantity of water collected in the Potable Water Reservoirs during 1933 was 17,554,398 gallons.

In addition, an estimated quantity of 5,639,100 gallons was run into the Brackish Water Reservoirs and to waste during the rainy season at a time when the Potable Water Reservoirs were full.

During the year under review the supply was as follows:—

To the Shipping	1,367,296	gallons
To the Town	12,572,381	gallons

(b) BRACKISH WATER.

This water is obtained from a number of wells situated at the North Front and is elevated by Pumping Machinery to several reservoirs situated in various parts of the City. An intercommunicating system of distributing pipes conveys the water by gravitation to every house and the supply is constant. The Council also pumps Brackish Water for War Department purposes to reservoirs near the top of the Rock approximately 1,390 feet above sea level.

The water is somewhat saline, the amount of salinity varying with the seasons, and is used for baths, fire fighting, road watering, flushing and general sanitary purposes.

The total quantity of brackish water pumped and distributed during the year 1933 amounted to 270,429,200 gallons.

A certain amount of trouble has recently been experienced by sand pumped up with the water from the North Front wells and certain works were carried out in 1933 at the Pump reservoir at Landport to eliminate this difficulty by way of settling chambers.

During the year the pumping station in the heart of the Rock near Hesse's Demi Bastion was enlarged and an additional pumping engine capable of delivering 60,000 gallons per hour was erected thereat.

One of the Pumping Engines at Europa Road Pumping Station was removed and replaced by a new engine capable of delivering 12,500 gallons per hour to the top of the Rock.

During the year 1933, the old and defective supply mains at Hospital Hill Road and in a portion of Irish Town were replaced by new mains of larger carrying capacity. The network of mains was also extended by the laying of new mains in Transport Lane, Transport Road, South Pavilion Road and to the Garages at the Ditch below King's Lines.

(c) BOILER WATER.

This water is pumped from shallow wells at North Front to water towers from which it is supplied to the Shipping for non-dietetic purposes.

During the year under review, the quantity thus supplied was 776,660 gallons.

SEWERAGE DISPOSAL AND DRAINAGE.

The whole of the sewage of Gibraltar eventually discharges at Europa Point where the prevailing strong currents speedily carry it out to sea. The main gravitating trunk sewer is about $2\frac{1}{2}$ miles in length and its size at the outfall is 6' 0" x 4' 6". It takes both sewage and storm water.

The configuration of the Rock is such that during heavy rains very large quantities of water very quickly reach the lower levels and the sewers are taxed to the utmost. The rate of run off is abnormal.

The sewage from the low lying northern district is lifted to the main gravitating sewer by a series of ejectors operated by compressed air. During the year 1933, the quantity of sewage and storm water so lifted amounted to 81,429,258 gallons.

Storm overflows discharging into the sea are provided on the line of the main sewer at such levels that they only come into operation at times of heavy floods when the sewer is running to nearly full capacity.

Certain districts are also provided with independent storm water relief drains.

During the year 1933, a new independent storm water relief drain was laid in Secretary's Lane, and an additional storm water drain direct to the sea was provided at the northern end of the Town to improve the storm drainage of the low lying area near "The Corral."

The new slop and storm water drainage system for Catalan Bay Village on the east side of the Rock was completed and put in operation during the year.

The Council has now called for a scheme of soil drainage for Catalan Bay Village.

SCAVENGING AND REFUSE DISPOSAL.

Household refuse is collected once a day in winter and twice a day in summer and conveyed for incineration to the Council's Destructor in petrol driven Freighter Cars. The Refuse Destructor is situated away from the Town at the North Front and is an efficient modern installation comprising two complete duplicate continuous grate incinerating units with subsidiary plant, buildings, etc.

In 1933, a new reinforced concrete rain water storage tank was constructed at the Council's Destructor to provide soft water for the boilers.

The average daily collection and disposal of domestic refuse was about $14\frac{1}{2}$ tons.

Steam generated by incineration of the refuse is utilized for disinfecting purposes at the Council's Disinfecting Station adjacent to the Destructor Buildings.

STREET CLEANSING AND SANITATION.

All the Public Highways of Gibraltar are provided with non-absorbent waterproof surfaces and are well cared for and maintained. The roads problem is, however, an exceptionally difficult one owing to the hilly nature of the Rock and the humidity which prevails during "Levanter" or east winds. The highways are narrow, many of them very steep and some are composed of flights of steps.

The total length of the Public Highways maintained by the Council is approximately 21 miles.

Charles V's Steps were completely reconstructed in 1933, and a great improvement effected thereby. Considerable improvements were also carried out at Abecasis' Passage and Hospital Ramp.

Street sweeping and cleansing is so organized that the whole city is divided into sweeping districts with a sweeper detailed for each section. Street orderly bins are provided at strategic points and these are regularly emptied by motor driven dust carts.

Travelling gangs wash down the streets and public steps with brackish water from watering hydrants by means of hoses and spreaders and, occasionally, a little disinfectant is added.

PUBLIC BATHS.

The Council maintain a bathing establishment centrally situated in Irish Town containing hot and cold slipper baths, douches, etc.

A fine sea bathing pavilion is also maintained and there are in addition two small second class sea bathing establishments.

SANITARY CONVENIENCES.

The Council maintain many public sanitary conveniences situated in various parts of the City all of which are fitted on modern lines.

HOUSING.

During the year 1933, three ruinous properties have been thoroughly reconstructed and are now occupied.

One property which consisted of stables, a blacksmith's shop, an old club premises and a number of dilapidated tenements, was converted into six quarters of two rooms and kitchen and one quarter of 3 rooms and kitchen, each with separate water closet, accommodation, a communal fresh water tank and wash-house.

Another property which was in an extreme state of dilapidation has been practically rebuilt and now consists of five quarters of 3 rooms and a kitchen, each with own water closet, a communal fresh water tank and wash-house. Advantage was taken to widen the approaches thereby improving the amenities of the locality very considerably.

A third property was in ruins and has been converted into four tenements of 2 rooms and kitchen with own water closet, fresh water tank and wash-house.

Thus during the year under review sixteen families have been provided for in simple modern dwellings with every convenience consistent with the class of building.

SUMMARY OF WORK DONE BY SANITARY INSPECTORS DURING THE YEAR 1933.

Complaints Received.

Written	4
Verbal	381

Premises Inspected.

General inspection	1
Casual inspection	53

Nuisances Found.

Defective drains	137
Obstructed drains	322
Defective water closets	292
Defective water closet fittings	398
Defective water fittings	357
Defective rainwater pipes	131
Defective eavesgutters	170
Defective roofs	122
Defective yard paving	38
Dampness	24
Premises dirty	96
Defective or no dustbin	250
Other minor defects	2095
Suspected pollution of water in underground tank	18
Underground tank not insect proof	39
Brackish water tank not insect proof or no cover	98
Brackish water running to waste	307

Miscellaneous Services.

Samples of food and drugs taken for analysis ...	44
Premises disinfected for infectious disease	136
Premises disinfected for vermin, etc.	12

Stables disinfected	607
Articles disinfected at North Front disinfecting Station	3235
Visits of enquiry re infectious disease	120
Cases removed in Ambulances—	
Local	40
Bay	22
Visits to Milk shops	228
Visits to Eating Houses	227
Visits to Mineral Water Factories	238
Visits to Common Lodging Houses	9
Visits to premises on which notice for abatement of nuisances has been served and are re-visit- ed for the purpose of ascertaining whether requirements have been complied with	2217
Notices served in accordance with “The Vaccina- tion Ordinance, 1887”	399
Legal proceedings instituted	4
Street water fittings found defective	148
<hr/>	
Defects found	4876
Defects remedied	4842
Pending on 31st December, 1933	34

COMMON LODGING HOUSES.

There is at present one common lodging house in Gibraltar.

Inspections were carried out at regular intervals, and the conditions generally were found satisfactory. No case of infectious disease occurred during the year.

LIST OF ORDINANCES, BYE LAWS AND REGULATIONS RELATING TO THE PUBLIC HEALTH ENACTED IN GIBRALTAR DURING 1933.

The following Bye-Laws were enacted during the year under review :—

The Public Health (Milk and Dairies) Bye-Laws, 1933.

The Public Health (Condensed Milk) Bye-Laws, 1933.

The Public Health (Dried Milk) Bye-Laws, 1933.

REPORT OF THE VETERINARY ADVISER.

Two outbreaks of contagious disease occurred amongst the animals in the Colony during the year under review; one of Rabies and one of Foot and Mouth disease. The Rabies outbreak affected both dogs and cats and was the more serious of the two. The outbreak of Foot and Mouth disease occurred in slaughter cattle from Morocco.

Details of both these outbreaks are embodied in the report.

HORSES AND MULES.

Twenty-four horses were imported by sea into the Colony during the year and were examined on landing and found free from disease. Their countries of origin were:—

England	10
Tangier	6
Malta	5
Casablanca	3

There were, in addition, a number of horses and mules imported by land from Spain, but no records are kept of these imports.

Horses examined prior to export and their destination were:

England	8
Malta	3
Tangier	1

There were no cases of contagious disease in civilian or military animals.

CATTLE.

The numbers imported and their country of origin were:—

	Spain.	Morocco.	Denmark.
Cattle	87	1,517	285
Sheep	1,448	50	—
Pigs	516	246	—
	<hr/>	<hr/>	<hr/>
Totals	2,051	1,813	285
	<hr/>	<hr/>	<hr/>

These were inspected on landing and were generally in good condition.

Three animals were destroyed on the quay due to injuries sustained en route.

One hundred and twenty-two cases of Foot and Mouth disease occurred in Moroccan cattle at intervals from May to September. The disease was of a mild type and was controlled by isolation and rapid slaughter.

Exports of cattle during the year were :—

	To Tangier	To Shipping
Cattle	9	—
Sheep	2	21

MILCH COWS AND GOATS.

All milch cows and goats were inspected during the year and found in a satisfactory state of health.

Newly imported milch cows and any cows showing clinical symptoms suspicious of Tuberculosis were tested with tuberculin.

DOGS, CATS, ETC.

RABIES—The first case of rabies occurred on the 4th April, 1933, in a cat and the last on 5th December, 1933, in a dog. In all eight cases occurred—four in dogs and four in cats—in which diagnosis was confirmed by demonstration of Negri bodies and animal inoculation at the Pasteur Institute, Tangier.

Ten post-mortem examinations were carried out in animals dying of suspected rabies and the brain extirpated and sent to the Pasteur Institute; in two of these cases a negative report was received the remainder being positive.

Attempts to trace the source of the outbreak in each case were made and invariably pointed to infection gaining admittance from Spain where rabies was very prevalent at that time. Two of the four rabid dogs were proved to be stray animals from Spain.

Thirteen people who had handled or been bitten by these rabid animals received anti-rabic treatment in Tangier.

Details of dogs and cats undergoing isolation, etc., were :—

	<i>Dogs</i>	<i>Cats</i>
(a) Number detained for isolation owing to having bitten persons or animals	22	24
(b) Number of cases of suspected rabies...	5	5
(c) Number of cases of positively diagnosed rabies	4	4
(d) Number destroyed	50	509
(e) Number imported from the United Kingdom without undergoing quarantine...	19	—
(f) Number imported from other countries which underwent quarantine of six months or less	11	—

E. S. W. PEATT,

Major R.A.V.C.,

Veterinary Adviser to the City Council.

F O O D .

SUPERVISION OF FOOD SUPPLIES.

General supervision of restaurants, cafes, eating houses and places where food is sold or prepared for sale is carried out by the City Council Sanitary Inspectors who also act as sampling officers.

Details of the samples taken during the year are given in the City Analyst's section of this report.

Market produce imported daily from Spain, fresh meat and imported frozen meat, are under the control of the staff of the Public Markets.

GIBRALTAR MILK SUPPLY.

Although a certain amount of milk is produced on the Rock, Gibraltar is dependent for the larger part of its supply of fresh milk on milk imported from Spain.

All imported fresh milk is required by law to be boiled, pasteurized or sterilised in Gibraltar before sale.

The average amount of fresh milk imported daily from Spain and that produced locally is shewn below :

	Cows'	Goats'
Locally produced	560 pints	230 pints
Imported	222 pints	3844 pints
	<hr/>	<hr/>
Total	782 pints	4074 pints
	<hr/>	<hr/>

Condensed milk is consumed to the extent of 1,200 tins a day.

All goats in Gibraltar are examined serologically for undulant fever twice yearly, and all cows are submitted to the tuberculin test by the Veterinary Adviser.

All goats proved free from infection.

In October 1933, new bye-laws were brought into force to control the supply of fresh, condensed and dried milks in Gibraltar.

The Condensed and Dried Milk Bye-Laws provide for the proper labelling of tins and lay down standards, which conform generally to those in force in England. In the case of three-quarter cream dried milk, however, a slightly lower percentage of milk fat is allowed as this is considered desirable for climatic reasons. Previous to the introduction of these bye-laws no laws existed for the control of the sale of condensed and dried milks in Gibraltar.

The Milk and Dairies Bye-Laws, 1933, supersede the previous regulations governing the importation, production and sale of fresh milk in Gibraltar and are modelled on the ordinances and regulations at present in force in England with certain modifications to suit local conditions.

In addition to the general provisions for registration of cow-keepers, goatkeepers, vendors of milk etc., and their premises and powers for ensuring the health of the cattle and goats and the general cleanliness and purity of the milk supply, powers are included to control the importation into Gibraltar of cows and goats, and it has been made an offence to sell skimmed or separated milk unless the vessel in which it is offered for sale is legibly labelled in the prescribed manner.

The standards of analysis of milk cream, butter or cheese which formerly were governed by rules under the Public Health Ordinance are now incorporated in the new bye-laws.

There are seven registered milk-shops in Gibraltar besides two milk stalls in the Markets.

There were 69 milk vendors registered with the City Council during the year.

BAKEHOUSES.

There are eight bakehouses in Gibraltar.

These were generally well conducted and clean and are subject to regular inspection by the City Council Inspectors.

Delivery of bread is made by covered vans or covered wheeled hand carts in the main streets in which wheeled traffic is possible.

In steps and ramps the delivery is by hand carriage in baskets.

A certain amount of Spanish bread is imported for sale.

BUTCHERS' SHOPS.

Both fresh and frozen meat is available in Gibraltar.

In addition to the butchers' shops in the Markets, there are four butcher's shops in the Town and one shop which deals ex-

clusively in imported frozen meat. The number of butcher's shops outside the Markets is strictly limited, and official approval is required in all such cases.

All fresh meat is slaughtered and dressed at the Government Slaughter House. Imported frozen meat is accompanied by a certificate of fitness from the country of origin and is subject to inspection on importation by the Markets staff.

ICE CREAM.

The manufacture and sale of ice creams is limited to places which in the opinion of the Medical Officer of Health strictly conform with the Bye-Laws made for the control of ice creams manufacture in Gibraltar.

The sale of ice creams in the streets is not permissible.

MARKETS AND SLAUGHTERHOUSES.

The Public Markets have been well patronized and have been kept in good condition, minor repairs and repainting having been carried out as required during the year.

The following major improvements have been carried out during the year:—

- (a) Enlargement of the restaurant by the addition of an extra dining room.
- (b) General repairs to the Charcoal Depot.

Plans have been approved for the erection of a permanent covering over the Flower Stalls at the north entrance of the Markets and will be carried out during 1934. Various temporary expedients have been tried without success and the erection of a permanent building will add to the comfort of the vendors and improve the appearance of the Markets.

The Slaughterhouse has been kept in good condition and the following repairs and improvements have been carried out:—

- (a) Re-roofing of cattle and pigs slaughtering rooms.
- (b) Re-roofing of Forage Store.
- (c) Laying of a broad tar-macadam path across Slaughterhouse yard from the entrance gate to the door of the Cattle Slaughtering room, in order to avoid damage to meat carts which formerly had to traverse this distance over a cobbled yard.

The imports of frozen meat continue to increase, with a consequent decrease in the number of cattle, sheep and pigs slaughtered locally.

A feature of the year has been the importation of Danish cattle, which are gradually superseding Spanish and Moroccan animals.

During the earlier part of the year the supply of fresh fish was very limited. Towards the end of the year, however, the quantity and quality of the supply greatly improved.

The amount of frozen meat imported during the past five years is shown below—

	Beef	Mutton	Pork
1929	11,713 lbs.	2,885 lbs.	2,366 lbs.
1930	54,741 lbs	25,380 lbs.	6,374 lbs.
1931	96,157 lbs.	69,926 lbs.	16,923 lbs.
1932	228,072 lbs.	116,099 lbs.	37,584 lbs.
1933	377,235 lbs.	156,030 lbs.	61,482 lbs.

The number of animals slaughtered during the year was as follows :—

Cattle	1,892
Sheep and Lambs	1,491
Pigs	786

The following table shows the causes for which carcasses or portions of carcasses were condemned as unfit for human consumption and ordered to be destroyed :—

	In whole	In part
CATTLE—		
Cysticercus Bovis	2	66
Tuberculosis	2	32
Abscess	—	1
Pleurisy	—	2
Enlarged Glands	—	1
Enlarged Spleen (cause unknown) ...	—	1
Liver Flukes	—	1
Pericarditis	—	1
Necrosis (Liver)	—	1
SHEEP—		
	Nil	Nil
PIGS—		
Tuberculosis	—	59
Pleurisy	—	1
Swine Erysipelas	—	2
Peritonitis	1	—
Brusing	—	1
Staphylococcal Infection (localized)	—	1
Discoloration of Fat	—	9

FOOT AND MOUTH DISEASE—

The following is a list of parts of carcasses destroyed during the year :—

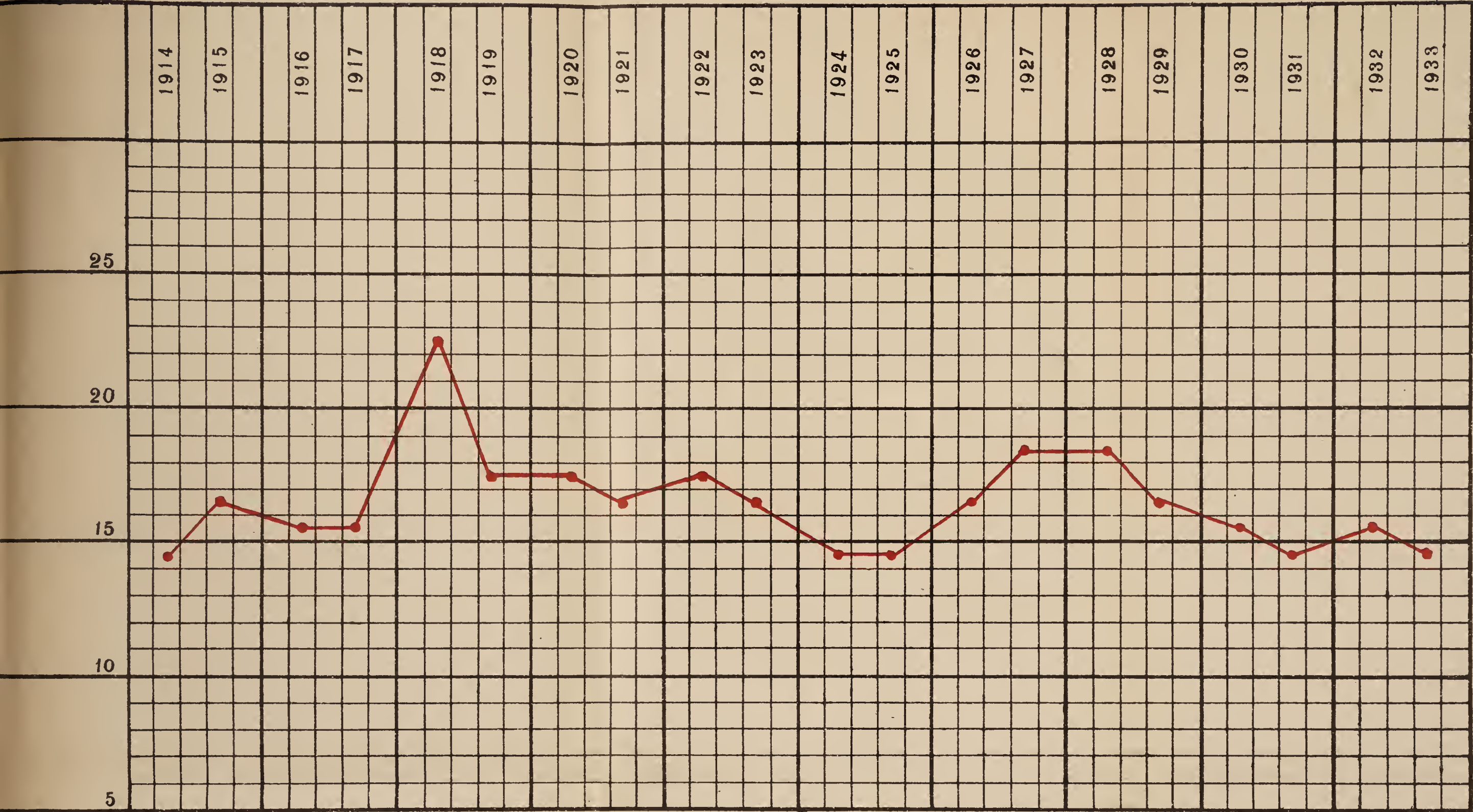
Heads (complete)	26
Gums and Muzzles	96
Tongues	88
Feet	488
Paunches	122

AMOUNT OF SHIPPING ENTERING THE PORT OF GIBRALTAR DURING THE YEAR 1933.

		Vessels entered in 1933*	Net Tonnage.	Number inspected.	Left in quarantine	Admitted to Pratique.
British	{ Steam	1,374	4,996,873	4	—	4
	{ Sailing	45	2,695	—	—	—
Total British		1,419	4,999,568	4	—	4
Foreign	{ Steam	1,704	5,155,380	—	—	—
	{ Sailing	1,429	40,703	—	—	—
Total Foreign		3,133	5,196,083	—	—	—
Total British and Foreign...		4,552	10,195,651	4	—	4

* Exclusive of men-of-war, yachts and seaplanes.

GENERAL DEATH RATE PER 1,000 OF POPULATION (TOTAL CIVIL), GIBRALTAR, FOR THE DECENNIAL PERIODS
1914 - 1923 and 1924 - 1933

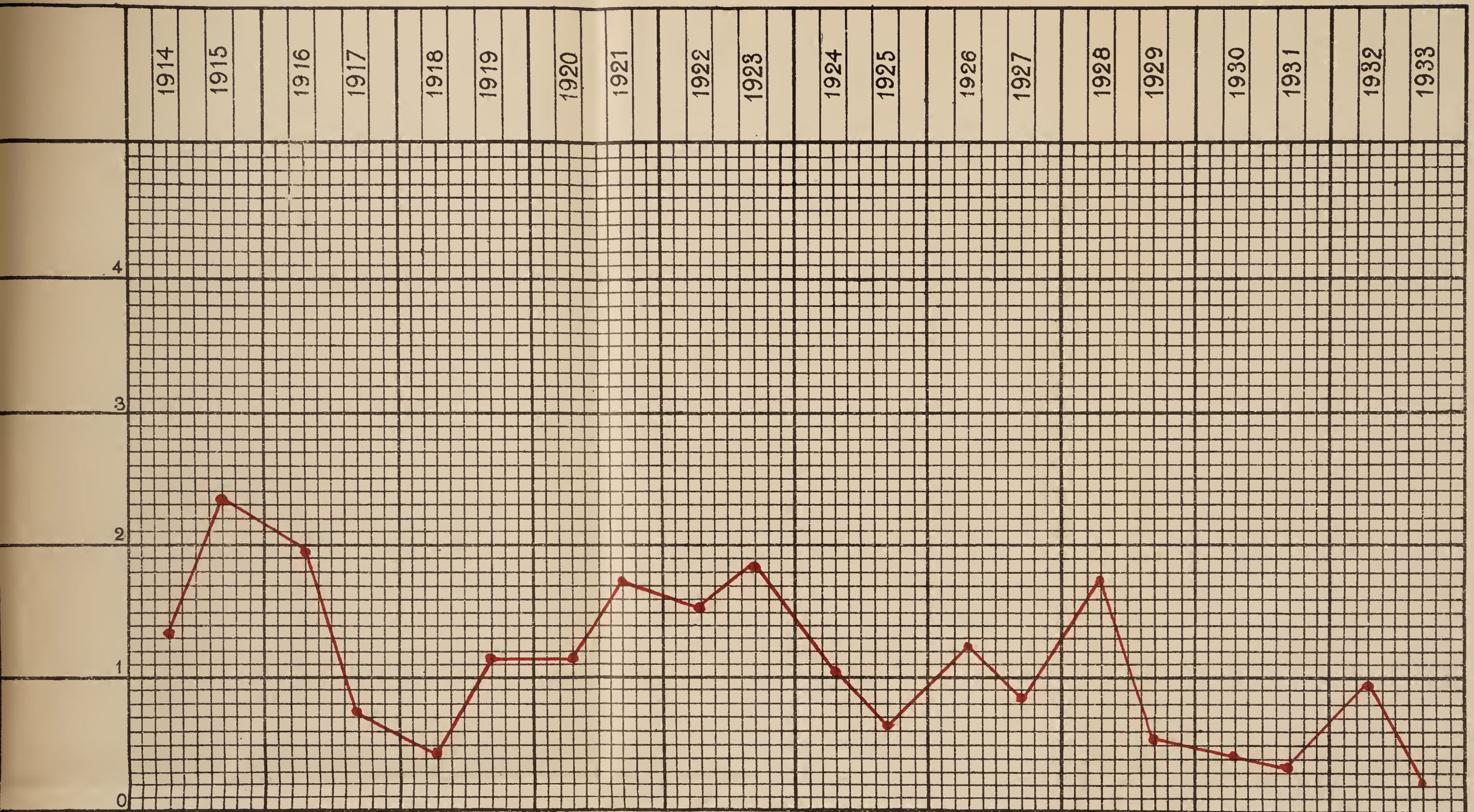


Average { 1914-1918..... 17
1919-1923..... 17.2
1914-1923..... 17.1

1924-1928..... 16
1929-1933..... 15
1924-1933..... 15.5

ZYMOTIC MORTALITY PER 1,000 OF TOTAL CIVIL POPULATION, GIBRALTAR, FOR THE DECENNIAL PERIODS

1914 - 1923 and 1924 - 1933

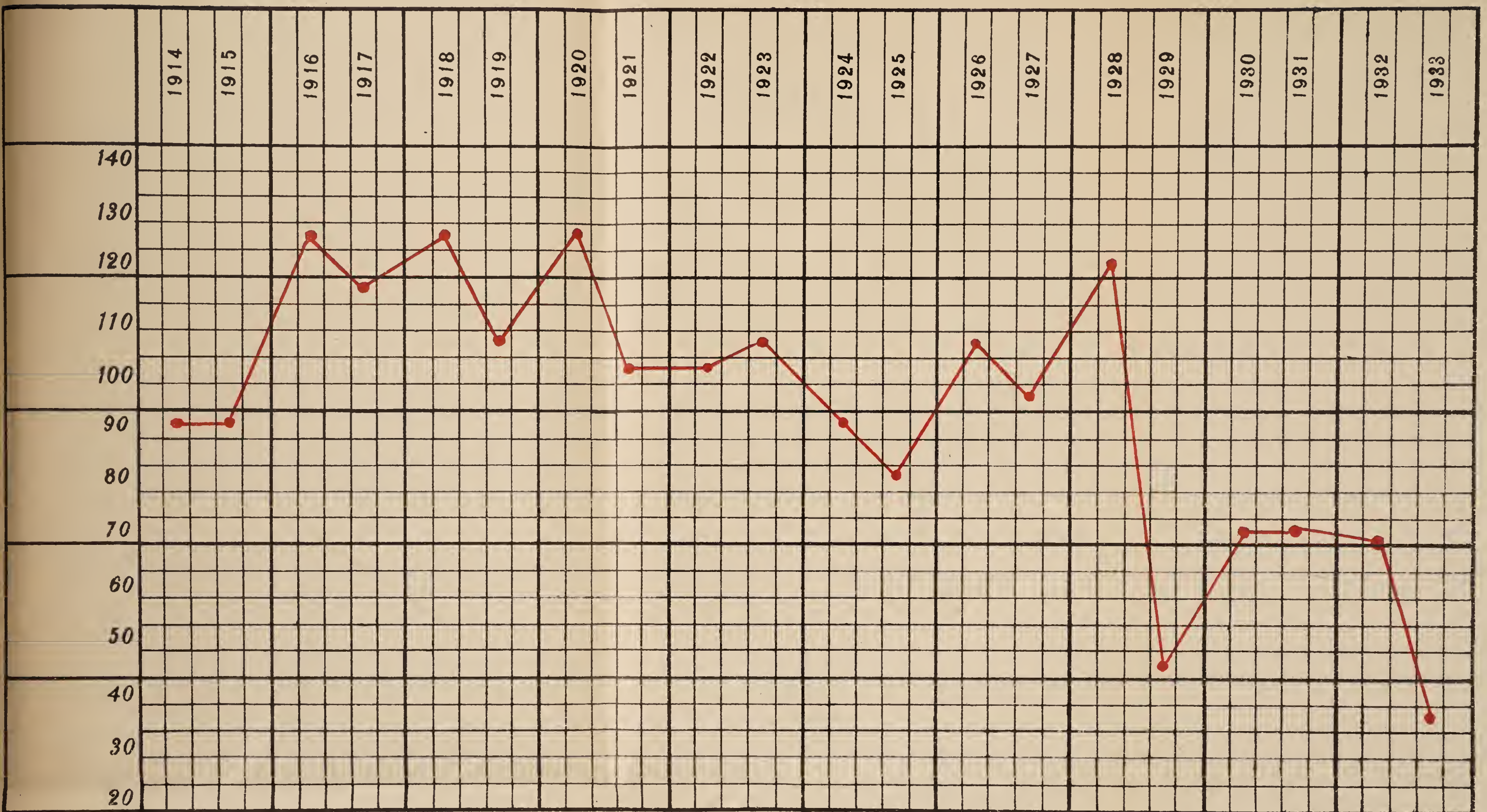


Average { 1914-1918..... .93
 1919-1923..... 1.49
1914-1923..... 1.2

1924-1928..... 1
 1929-1933..... 0.5
1924-1933..... 0.78

INFANTILE MORTALITY PER 1,000 BIRTHS, GIBRALTAR, FOR THE DECENNIAL PERIODS

1914 - 1923 and 1924 - 1933



Average { 1914-1918..... 109
 1919-1923..... 110.3
1914-1923..... 109.7

1924-1928..... 100.8
 1929-1933..... 55.7
1924-1933..... 78.2

GIBRALTAR.



